

CHOICE

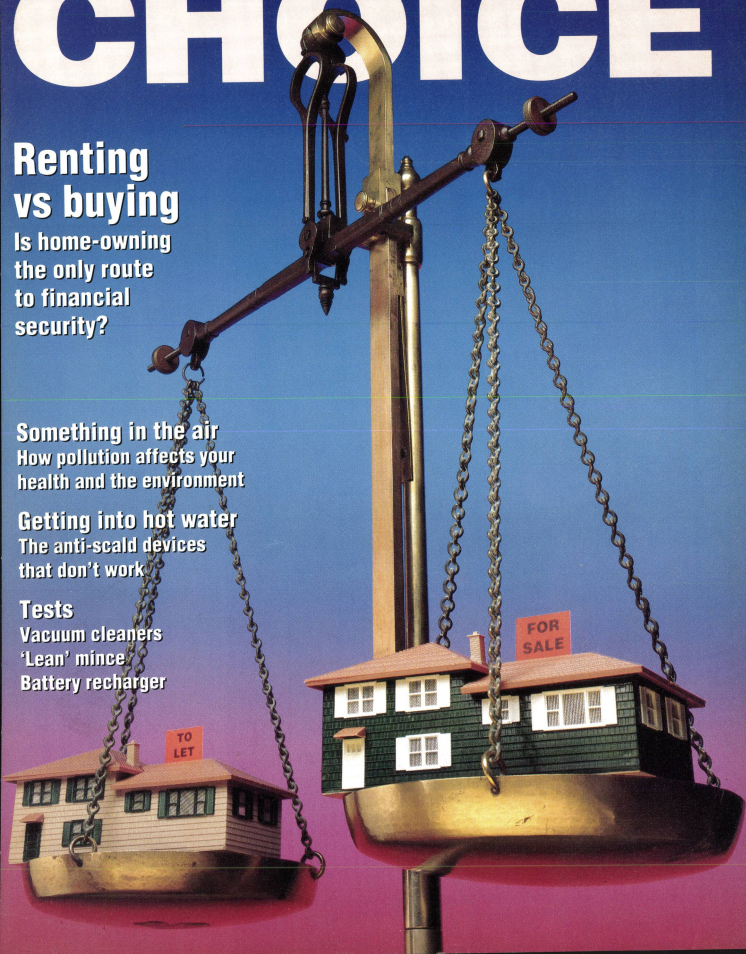
Renting vs buying

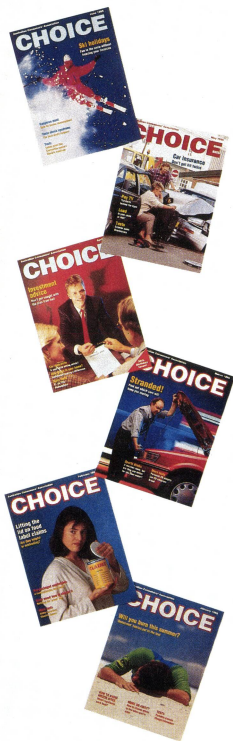
Is home-owning
the only route
to financial
security?

Something in the air
How pollution affects your
health and the environment

Getting into hot water
The anti-scald devices
that don't work

Tests
Vacuum cleaners
'Lean' mince
Battery recharger





About the Consumers' Association

The Australian Consumers' Association is a non-profit, non-party-political organisation established in 1959 to provide consumers with information and advice on goods, services, health and personal finances, and to help maintain and enhance the quality of life for consumers.

We are completely independent. We buy all the products we test on the open market. We are not beholden to any commercial, government or union interests, and we don't accept advertising, paid or unpaid. Our income is derived from the sale of CHOICE and our other publications and products.

We test and rate products and services. Our ratings are usually based on quality without regard to price, and are derived from lab tests, expert judgments and reader surveys. If a product is high in quality and relatively low in price, we deem it a Best Buy. A rating applies only to the brand and model tested, not to other models sold under the same brand name, unless so noted. We can't conduct special tests or provide information about tested products beyond what appears in CHOICE.

No commercial use policy. Our ratings and reports may not be used in advertising or for any other commercial purpose. The Consumers' Association will take all steps open to it to prevent commercial use of its materials, its name, and the name of CHOICE or our other publications. Please report any apparent violation to the Consumers' Association, 57 Carrington Road, Marrickville 2204; fax (02) 558 9341.

We represent and act in consumers' interests. We lobby and campaign on behalf of consumers to promote consumers' rights, to influence government policy, and to ensure consumer issues have a high profile in the public arena.

Membership. Subscribers can become voting members of the Consumers' Association on application. Membership costs \$75 per year, which covers your subscription to CHOICE plus a further subscription to our consumer policy and campaigning magazine, *Consuming Interest*.

About CHOICE

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Subscription rates. \$48 for one year, \$89 for two years; institutions \$66 per year.

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Other Consumers' Association products

Choice Books publishes non-fiction titles on a wide range of topics, with a consumer perspective.

Consumer Bookshelf offers both Choice Books and material from other publishers for sale by mail order.

Test Research provides fee-for-service testing and research on consumer products, services and regulatory issues for other consumer organisations, government and industry. For work to be accepted by Test Research, consumer benefit must be the primary outcome (for example, testing for energy labelling).

Consuming Interest, our quarterly campaigning magazine, is published in February, May, August and November. It provides straight facts, probing analysis, in-depth reporting, informed opinion and stimulating debates. It also gives updates on the lobbying and campaign projects of the Consumers' Association.

CHOICE Travel. This magazine is produced by the UK Consumers' Association and reprinted by CHOICE four times a year. Its reports are independent in the same style as CHOICE and, while they're written from the perspective of a European base, most of the information in them is just as useful to travelling Australians.

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Dirty tricks door-to-door; baby walkers and accidents; energy rating for gas central heating systems; update on the EnergyCard; *CHOICE Health Reader* launched.

23 Car reliability survey

This time we've printed our car reliability questionnaire in the centre of the magazine. Please fill it in, pull it out and send it to us!

27 Consumer Bookshelf**30 Computing Choice**

Our new regular department on computing and communications isn't written for the computer buff. Its aim is to give information to people who find themselves surrounded by new technology in their daily lives, without really understanding what it's all about and what it can do for them. We've started off by answering a question we've heard often: "So what is the Internet, anyway?"

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It's supposed to be easier now for consumers to get compensation for damage or injury caused by unsafe products. Are the new laws working?

34 Your Money

Since we published our report on car insurance in the May issue, we've discovered that for many people it's even harder to buy a good policy than we thought. This month's *Your Money* gives you an expanded Buying Guide to go shopping with.

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Air pollution is a source of concern for many people. How does it really affect your health and the environment, and what can you do about it?

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Mince today comes with a bewildering variety of labels, but do any of them mean anything when it comes to trying to tell how much fat you're buying with your mince? We tested samples from around the country to find out.

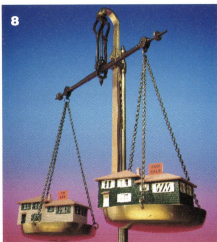
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But can you? We tested a device claimed to "extend the life of alkaline batteries up to 10 times" and found it disappointing.

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We discovered — not for the first time — that the most expensive vacuum cleaners aren't necessarily the best performers or the easiest to use.

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Cover photo: Kent Mears

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Fax machines, cordless drills, 500 L fridges, laundry detergents, using the health system, moving house.

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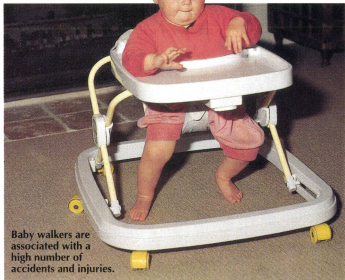
Tests: Computer printers, high chairs, hair removal devices, roof ventilators, air conditioners, spreads and trans fatty acids, electric lawnmowers, clothes dryers, termite inspections.

Reports: Using the health system (part 2), drinking water quality, investing in shares, savings accounts and other savings options, food labelling, pet food, travellers' health, choices for a republic.



CHOICE CUTS

Child safety



Baby walkers are associated with a high number of accidents and injuries.

WALKERS ON WAY OUT

THE AUSTRALIAN COLLEGE of Paediatrics would like to see all baby walkers banned because of their potential danger to young children.

According to Federal Consumer Affairs Minister Jeanette McHugh, between 1986 and 1992 more than 600 Australian youngsters were injured as a result of using baby walkers, and US surveys suggest up to 40% of babies placed in walkers are involved in some type of accident.

Ms McHugh says legal advice from the Solicitor-General indicates she can't ban them outright — under the Trade Practices Act only particular brands of a product can be banned, not the product itself. According to a spokesperson for Ms McHugh, calls by the American Academy of Paediatrics for a complete ban on the product in the US, following 11 walker-associated deaths there since 1989,

have been similarly unsuccessful.

However, Ms McHugh has recently written to more than 350 nursery product retailers asking them not to sell walkers. We can only hope they soon disappear from our shops as retailers agree to withdraw them from sale.

Ms McHugh says the Federal Bureau of Consumer Affairs is monitoring developments in the US, where the Consumer Product Safety Commission has announced plans for a mandatory standard aimed at reducing or eliminating the mobility of baby walkers. "The problem with baby walkers relates to the speed with which a child, who has not yet learned to walk, can travel," she says. "In no time at all, a child using a baby walker can reach a potentially dangerous situation, such as a flight of stairs or an ironing board on which a hot iron is resting."

Health

A HEALTHY CHOICE

IN AUGUST, CHOICE will launch a new publication called the *CHOICE Health Reader*. Edited and written by two of the best known and most experienced health writers and analysts in Australia, Dr Norman Swan and Dr Garry Egger, it will keep you up to date with the latest findings on nutrition, exercise and all branches of medicine and health care.

If you wish you had the most current facts at your fingertips when you need to ask your doctor important questions, this publication will help you.

If you're a doctor, physiotherapist, chiropractor or other health professional, you can provide the *CHOICE Health Reader* in your waiting room and give your patients relevant, useful and up-to-date information.

If you have to deal with health in some way in your professional life and would like to keep up with the latest information in a brief, easy to understand format, this publication is also for you.

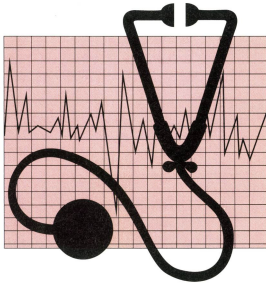
The philosophy of the *CHOICE Health Reader* is based on a repeated finding in health research that the more people feel in con-

trol of their health, the greater their sense of wellbeing. Independent information which helps you make decisions is recognised as a practical route to this control. The *CHOICE Health Reader* provides this kind of information about what you eat, how you exercise and what treatments or preventative activities work. It gives access to reports and analysis based on research in up to 200 scientific journals.

Dr Norman Swan is best known for his work on the ABC, while Dr Garry Egger has a wide reputation in exercise, health promotion and nutrition. Both are supported by a consultant board of some of Australia's leading health specialists and researchers.

The *CHOICE Health Reader* is published 10 times a year as a 12-page newsletter, and a personal subscription costs \$49.95. Binders are available.

If you wish to subscribe you'll find an order form with next month's CHOICE — just fill it in and send it back to us at *CHOICE Health Reader*, 57 Carrington Road, Marrickville 2204.



CHOICE BOOKS ON DISPLAY

Choice Books will again be on display (and for sale) at the Australian Book Fair in July on the days the fair is open to the public: Saturday 15 and Sunday 16. If you're in Sydney, come and see all our books in print, including our latest publication, *Media Rights — Consumer Action* — and meet our staff.

The Book Fair will be located in the Sydney Exhibition Centre at Darling Harbour.

FILL IN OUR CAR RELIABILITY SURVEY

See page 23.

DIRTY TRICKS

BE SUSPICIOUS of any salesperson trying to persuade you that his or her product is endorsed by CHOICE. Even if we recommend a product in CHOICE, we never become involved in its promotion.

We've recently received complaints from state asthma foundations that salespeople from the Kirby Group vacuum cleaner company are claiming its machines are recommended both by "the Asthma Foundation" and by CHOICE. None of the state foundations nor CHOICE has endorsed the Kirby machines or any other vacuum cleaner.

Mr and Mrs A of Finley, NSW, told us how they were pressured into signing up for a Kirby vacuum cleaner earlier this year. They 'won' a free carpet-cleaning and shampoo treatment, and they certainly got the treatment — a six-and-a-half-hour Kirby vacuum cleaner demonstration and hard sell from two Kirby representatives.

Only the Kirby vacuum cleaner, they were told, was endorsed by the Asthma Foundation, and their baby, although not yet an asthmatic, would suffer if they didn't buy one straightaway.

The representatives also told them CHOICE had found the Kirby vacuum cleaner removed 98% of dirt and that we had recommended it as the best model.

Let's put the facts straight. In our test report of upmarket vacuum cleaners, published in February 1991, we recommended *against* purchasing any of the brands we tested — including the Kirby — as we felt they were all too expensive for what they did.

(Current Kirby models sell for around \$3000.) We found the Kirby picked up 41% of the dust from wool/nylon cut-pile carpet with a twist and 63% of dust from plush-pile carpet with no twist.

Only after they had signed an agreement to buy the vacuum cleaner did Mr and Mrs A have a chance to read the CHOICE report and learn they hadn't been told the truth.

It was also only after signing on the dotted line that the couple read the contract carefully and realised they had agreed to a much higher interest rate on their loan to buy the vacuum cleaner than that quoted by the salesman. However, because of the 10-day cooling-off period (applicable in all states to door-to-door sales), they were able to cancel the contract.

Asthma and dust

The Asthma Foundation of Victoria advises that asthmatics should be tested for sensitivity to household mites and other allergens. If dust is shown to be a problem, consider removing the carpets rather than investing in an expensive vacuum cleaner. Vacuum cleaners don't eliminate dust mite allergens. Most merely blow out fine dust mite faeces through the exhaust, making it even easier to inhale them than when they're lying on the carpet.

If you want some soft floor covering but are allergic to house-dust mites, scatter rugs — which can be hung out in the sun and beaten to remove dust mites and other allergens — are a better choice than wall-to-wall carpets. Washing

YOUR RIGHTS

It pays to be wary of any door-to-door salespeople. Remember your consumer rights:

- If approached by a door-to-door salesperson, ask to see their identification card and note their full name and the name and address of the trader they work for.
- Be assertive: don't be afraid to ask a salesperson to substantiate their claims about their product, to say no or to ask them to leave.
- Get all the facts (such as exactly how much the item will cost) before you sign a contract or make any payment. Don't be pressured into signing up for something before you've had the chance to be alone and consider your options.
- If you decide to buy, make sure you read the contract thoroughly and that you understand it before you sign, and ask for a copy of the agreement.
- In all states and territories you have the right to a 10-day cooling-off period after signing an agreement to purchase an item costing more than \$50. That means you're entitled to cancel the contract for any reason within that time.

In all states and territories except NSW and Victoria, it's illegal for a salesperson to ask you for any payment before those 10 days have expired. In NSW and Victoria you may be pressured into making a deposit or full payment on the spot. And if you live in NSW, be aware that, while you have the right to ask for your deposit back during the 10-day cooling-off period, you may lose your money if you've paid for the item in full by cash or cheque.



synthetic rugs in hot water above 55°C should kill dust mites.

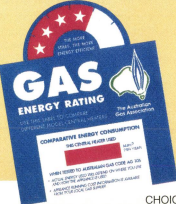
We've heard that door-to-door salespeople may demonstrate the impressive efficiency of their vacuum cleaner on a mattress — which isn't normally vacuumed and may collect a large amount of

dust. Asthma foundations recommend that you simply cover mattresses and pillows with protectors which are impervious to dust mites and easy to clean, and consider replacing woollen blankets and feather-filled pillows and quilts with synthetic or cotton products.

GAS STAR LABELS

Gas central heating units now carry a star rating to help you identify the most energy-efficient models. The first star is gained when the heater meets the Australian Gas Association's (AGA's) minimum approved standards for energy and efficiency. Each star after the first represents a performance increase. The label also shows the heater's average yearly consumption of gas as demonstrated in AGA tests, so you can compare the running costs of different appliances.

The AGA says that by helping you choose the most energy-efficient models, the rating system (already in use for gas water and space heaters) can enable you to cut central heating costs by up to \$250 a year and may reduce annual greenhouse emissions by 1.6 tonnes per household.



ENERGYCARD UPDATE

The Commonwealth Government's EnergyCard, which enables you to buy a solar hot water system on low-interest credit, is finally up and running, after months of delay. The plan has been available to consumers since the beginning of May.

The Australian Guarantee Corporation (AGC) is providing the finance for the scheme, not Household Financial Services, as originally planned.

You can apply for the card from the AGC, a range of retailers and installers or from some councils and electrical authorities. No deposit is required for the solar hot water system and the annual rate of interest is currently 9% (fixed for two years). This means changing to solar power makes more financial sense than ever.

It's expected in the future you'll be able to use the EnergyCard to purchase other energy-efficient products, such as selected reverse-cycle air conditioners, double glazing and insulation.



Ouch, that's hot!

Hot water accidents injure too many Australian children every year. Two recently released brands of anti-scald devices aim to protect small children from scalding hot water in the bathroom. We tested them and made some alarming discoveries.

IN SEPTEMBER LAST YEAR WE reported on a campaign to raise awareness of the dangers presented by household hot water. It was run by the NSW health department under the dramatic slogan 'Hot water burns like fire'.

That article drew attention to the dreadful injuries that befall hundreds of young children every year as a result of scalding accidents, many of which occur in the bathroom. We presented the results of research we undertook — commissioned by NSW Health — to determine whether people would readily accept lowering the temperature of their household hot water systems to a relatively safe 50°C as one approach to reducing these risks. Unfortunately, many people in our study didn't want to lower their system's temperature because they ran out of hot water too often.

We also listed other measures you can take to help ensure dangerously hot water can't reach the sensitive skin of small children in your bathroom. Among the options were a couple of new products known as anti-scald devices (ASD) or, more technically, temperature-activated flow regulators (TAFR). Since these had only just become available, we said we'd test them to see if they lived up to their claims in this crucial household safety task. Unfortunately our results are alarming.

NO SUBSTITUTE FOR CARE

Child accident prevention authorities stress the importance of *never* leaving young children unsupervised in a bathroom — not even for a moment while you answer the door. Small children are curious and love to copy something they've just seen an adult do, like turning on a tap to run the bath or removing 'child-resistant' tap covers. They don't associate taps with danger even though they may be sitting directly under the

spout — this probably accounts for many of the nastiest scald injuries passing through our hospitals each year.

One of the potential problems with safety measures such as ASDs is that, if you believe they will always prevent hot water coming out of your taps at dangerous temperatures, you might tend to drop your guard and take your eyes off toddlers when they're within reach of the taps. This could increase the danger if the devices don't work as they should.

It's therefore extremely important they deliver on their promise of protecting people from scalds. Unfortunately we found they are far from sufficient protection for unattended children. The performance of some models was so erratic, it cast doubt on whether they're worth having at all.

WHAT THEY ARE, HOW THEY WORK

When we bought, we could find only two brands of ASD on the market in Australia — SCALDSAFE and the range distributed by KELLER (Bathgard, Flowgard and Showergard) — and both hail from the United States. Each company sells three different models: one for bath taps, one for bathroom sink taps and one for showers. We tested all of them.

They are essentially valves installed near the spout that are designed to snap shut, cutting off the water flow, if the temperature goes above about 46°C. (Note that they're only suitable for mixing taps. Installing them on a straight hot-water tap would result in a constantly shut valve.)

They make use of an ingenious new piece of metal technology. 'Shape memory alloys' — the nickel and titanium alloy called Nitinol is a common one — display unusual behaviour when heated and cooled. At a given temperature, they expand rapidly, causing them to change shape. Once they drop back below that



threshold, they resume their previous shape.

This isn't just fascinating for metallurgists, it has the potential to be extremely useful. The makers of ASDs have attempted to harness this discovery, but the results are disappointing. The ASDs we tested, which use shape memory alloys, haven't been engineered or manufactured to a standard that delivers reliable, effective performance.

The products are designed for relatively simple do-it-yourself installation and, compared to some hot water safety alternatives, they're fairly cheap. We found average prices of around \$30–\$45 for the different ASDs. Other options to ensure safe hot water delivery include tempering valves (around \$90) and thermostatic mixing valves (several hundred dollars). These regulate the water temperature by mixing cold into the hot supply before it reaches your bathroom, and will probably require the services of a plumber to install. (See CHOICE, September 1994, for more information on other hot water safety options.)

WHAT ARE THE PROBLEMS?

The first problem with using memory alloy technology in an ASD is that if the valve snaps completely shut as soon as the alloy is activated by hot water, it will cool to below the threshold — since there's no longer any water flow to keep it hot — and snap open again just as quickly. The water will flow again and the cycle will keep repeating, resulting in an effect called 'water hammering' — shuddering bursts of high then low pres-

From top left, clockwise: the Scaldsafe bath, shower and sink fittings, and the Keller Flowgard, Showergard and Bathgard. We can't recommend any of them.

temperature threshold to a dribble of around 50 mL per minute or less. At the other end of the scale, two of the SCALDSAFE devices allowed a flow of well over two litres per minute of water at around 60°C. For the purposes of child protection, these two may as well not have been installed at all.

Thirteen of the 20 individual units tested gave unacceptable flow rates of over 500 mL per minute of water at about 60°C.

OUR VERDICT

In view of the poor results from some models and the variability in results from others, from both product ranges, we don't feel confident recommending any of them — certainly not as a substitute for vigilance and other hot water safety measures.

If you have small children in your household, or anyone elderly or with a disability that would hinder getting out from under a hot torrent quickly, we suggest taking steps to lower the temperature of the water reaching your bathroom to below 50°C, either by use of the tempering or mixing valves mentioned earlier or by having the temperature of your hot water system turned down. □

sure that have the potential to damage the surrounding plumbing.

For this reason, they're designed to allow some water to flow even when they're in the 'closed' position. This also allows the valves to reset themselves after you've adjusted the hot/cold mix to bring the temperature back to a safe level. And there's the rub. If the water is very hot and the rate the ASD allows it to 'trickle' through is too high, you'll still have a serious scalding hazard on your hands.

The water in some houses is very hot indeed. Temperatures as high as 80°C are not unknown — some solar systems get even hotter — while 70°C is commonplace. Even at 60°C, medical authorities regard water as very dangerous since it can inflict a third-degree scald (permanent, irreparable skin damage) in about one second. Unfortunately, the flow rates we measured for all the devices when the safety valve was closed would mean serious scalds are possible even when the device is supposedly 'working'.

THE TRICKLE-DOWN EFFECT

We tested these products by measuring the exact flow rates they permitted once they had been activated. Also, twice a second during testing, we electronically measured and recorded the temperature of the water emitted.

The overall results were discouraging. We checked each of six products (three types by two brands) three times. The results of this first round of testing were so variable from device to device, we decided to buy two more of each

device and tested again. The results again varied widely, not only from type to type but sometimes also from unit to unit of the same type and brand.

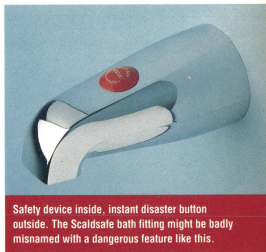
The seriousness of a scalding injury is determined by the temperature of the water and the volume of it that contacts the skin. When the liquid is hot, it requires very little to cause a great deal of harm, especially to children and babies.

Two of the units tested choked off the water as it rose through the critical

Don't press the 'burn me' button

Adults are usually aware of what they're doing with hot water taps and in most cases life has taught them not to position their bodies in the direct firing line, so the chief value of ASDs — if they work properly — is in protecting people with mobility problems and small children. It's therefore somewhat astonishing that a manufacturer would include on a product a big red button that almost yells 'press me' to a two-year-old, especially when its function is to bypass the safety valve device and allow water of any temperature to gush forth into a bath!

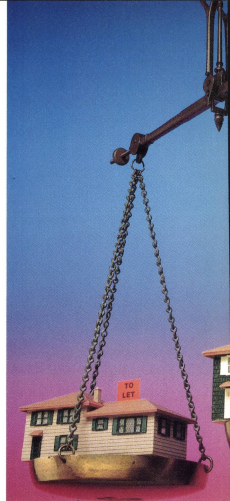
Yet this is precisely what the makers of the SCALDSAFE brand have done. Their three models all come with a bypass button which is not even remotely 'childproof' sited prominently on the tap fitting. The bath and shower units have a large red button (see photo, right) and the sink unit has a metal bar to press. The strength required to operate them is negligible and, given that their purpose is to allow water to flow 'full bore' after it's hot enough to have triggered the valve, we regard them — and the one on the bath unit in particular — as safety hazards to children that totally undermine the purpose of the products. We strongly recommend avoiding this brand while these buttons remain a feature.



Safety device inside, instant disaster button outside. The Scaldsafe bath fitting might be badly misnamed with a dangerous feature like this.

To buy or not to buy?

Home sweet home may never ring truer than when you own your own house, but how does it rate as an investment?



BUYING A HOME WILL PROBABLY be the most important financial decision you'll ever make, but is owning a home the best and easiest way to earn money? What many potential and actual home-owners fail to realise is that property is not the only investment they can make. Rather than buying a home, you could rent and save money to buy other types of investments.

What are the advantages and disadvantages of renting or buying a home? How does paying off a house rate as an investment strategy in comparison with bank investments or investing in shares?

Buying benefits

ONE OF THE MAJOR REASONS FOR saddling yourself with a mortgage is the security of home ownership. You're not answerable to a landlord, you can modify your home (subject to local council requirements) and no one can suddenly put up your rent or ask you to leave.

Even if it takes 25 years to pay off the mortgage, you'll end up with an asset that can be cashed in if you need money,

it can contribute to a good credit rating, and your property can also be used to secure further loans.

As the years go by, not only is your debt reducing but the value of your property usually grows — and this increase belongs to you. If you borrow \$100,000 to buy a \$120,000 home, for instance, your initial share is \$20,000 and the financier owns the rest. If the property's value jumps to \$200,000, your share has become \$100,000.

Owning a house gives you more disposable income later on. Paying off your home before retirement helps you make ends meet when living on a fixed investment income or pension. It's also exempt from the pension assets test (although owning your own home does affect the amount of other assets you can own if you're on the pension).

Another advantage of paying off a house as a way of saving money is its tax status. Unlike some other investments, your principal place of residence is exempt from capital gains tax. If you sell it, you won't be taxed on any increase in its capital value over inflation (provided you don't sell it within 12 months of buying it).

Buying a house can benefit your chil-

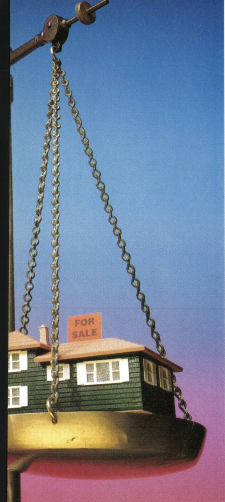
dren — title can be passed on and they can sell it to realise its value. If they decide not to sell, they must move into the home themselves to continue its capital gains tax exemption.

Buying hazards

THERE ARE SOME HURDLES AND hazards involved in buying a house. The most immediate hurdle is the large up-front entry costs, including establishment fees, application fees, commitment fees, legal fees, valuation fees and mortgage insurance.

You're also likely to need building and pest inspections, a geo-technical report and/or a strata records search.

The biggest up-front costs will be stamp duty, registration fees and inquiry certificate fees. These costs combined can amount to quite a tidy sum. In our hypothetical scenario (see *Our study* on page 11) entry costs amount to more than 4% of the cost of the property. The amount of expense depends on whether you purchase a unit or a house (a house requires more title searches and so up-



front costs are higher), and what and where you buy (the more expensive the property, the greater the up-front entry costs).

Apart from the initial expenses, your house will also carry long-term running costs, such as council fees and rates, and the costs of upkeep. Over time, inflation makes the value of your mortgage repayments a smaller proportion of your income, but at the same time it has the effect of increasing the cost of services. The need for maintenance increases with the age of the house. To maintain or increase the market value of your house, you may have to spend money on home improvements.

There may also be limitations on what you can do with your home. You may be constrained by neighbours, the edicts of local councils and the terms of your mortgage. You may also be restricted in the type and location of housing you can afford to buy.

Buying a house means committing your pay packet to large ongoing expenses and restricting your spending power — so fewer or no luxuries!

Buying a home is no guarantee of financial success. Property values can fall or stay dormant for many years. If

you sell at the wrong time, it is possible to make a capital loss. The residential property market, like other markets, undergoes fluctuations. These demand fluctuations are related to immigration, interest rates, inflation rates, employment levels and general economic conditions.

Most home loans are now based on variable interest rates. If rates increase, your mortgage repayments will also go up. If you can't afford higher mortgage repayments, there's no guarantee lenders will let you extend the period of the loan. It's possible you could be left with no alternative other than to sell the property. Be careful not to commit yourself to repayments that are too high when borrowing for a home (or for any other reason).

To make buying a house worthwhile, it should be a commitment of at least 10 years. For example, in our scenario (*Our study*) it takes more than six years before paying off a mortgage becomes a better way to save money than renting and investing in shares.

Renting benefits

ONE OF THE MAJOR BENEFITS OF renting is that you can live in areas you might not be able to afford if you took out a mortgage. You're not tied to one particular area and can move relatively easily once your lease is up.

Financially, you're not burdened with council rates, maintenance, house insurance (except to cover your personal belongings) or the worry of major or minor repairs, such as repainting or replacing a washer. Most of your housing costs are usually dealt with in one regular rental payment, so budgeting can also be easier.

As a tenant, you have certain rights that offer you some protection and make your relationship with a landlord more balanced.

Renting can also be convenient. You can cut down on the time and expense of travelling to work if you rent near your workplace. Renting is also recommended if your income is not secure — you can rent a place that matches your current income instead of having a major financial commitment.

If you have the discipline, it's possible to live in rented properties and save money to buy other types of investment like shares. According to our analysis, in

some circumstances your assets would be similar after 25 years whether you paid off a house or put your money into shares and rented a home. In fact, this strategy has several advantages. For example, cash investments or company shares are more flexible than property — they're a lot easier to sell than a house.

Renting hazards

THERE ARE DISADVANTAGES IN RENTING a house and attempting to make your fortune through other investments. If you're not in subsidised housing, it can take a good slice out of your income every week for no return, and it can increase periodically.

Renting can be cheaper than initial mortgage repayments, but you'll never end up with an asset you can sell and rents will continue to increase with inflation. The real estate industry says rents are already rising beyond the rate of inflation because of rising demand.

Renting gives you no permanence. The lack of security of tenure could result in tenants occupying a series of homes — a costly exercise when you consider the expense of bonds, hiring removal trucks, telephone and electricity reconnection fees or placing children into new schools.

When renting you must deal with landlords, real estate agents and the fear of eviction. While most are fair-minded, you could run into problems. Although legal help in rental issues for tenants is often accessible, many tenants are unaware of their rights, giving the agent or landlord the advantage.

You can't always change or modify a rented property according to your tastes and some landlords won't allow you to keep a pet.

You also have less privacy. Landlords or agents may want to enter your home for inspections, repairs or maintenance, which can be inconvenient.

Renting a house and buying other forms of investment like shares requires discipline — you have to save any money left over from paying the rent and other living expenses rather than spend it. You also need a sound understanding of how these investments work because they may carry high risks or they may not offer good returns. In addition, if your shares aren't fully franked (see page 11), you could be hit with an income tax bill.

Bricks and mortar or stocks and bonds?

Bricks and mortar

Residential property is one of the most commonly available types of investment in Australia. However, buying a home as your principal place of residence usually requires a different type of financial arrangement from buying an investment property that you don't intend to live in. It's also subject to different tax arrangements.

The value of residential property moves in cycles depending on interest rates, inflation, and the number of existing and newly built houses and units on the market at the time you buy. A property bought or sold at the right time in an economic cycle will show better returns than if you have to sell when values are lower.

The type, quality and position of the property you purchase will also influence its capital value. Some commentators argue that location is the most important factor to consider when buying a home. As Figure 1 shows, property values in up-market suburbs like Sydney's Paddington have increased at a much higher rate over the past 14 years than the price of homes in a less prestigious suburb like Guildford.

Generally, the real estate market is less volatile than the sharemarket. However, buying a house instead of other investments means you're essentially putting all your eggs in one basket, whereas with shares you can diversify by investing in different companies. Property is also generally not as easy to sell as shares.

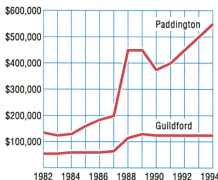


Figure 1. Where you buy influences how much capital you can gain; in this example, Sydney's Paddington vs Guildford.

In the bank

If you choose to rent somewhere to live and invest your money elsewhere, you may consider placing your savings in a cash management trust (CMT). These allow small and large investors to participate in the short-term money market. CMTs use your money to invest in short-maturity investments or in securities offered by the Commonwealth or state governments.

Cash management trusts were introduced in Australia in 1980, when they immediately attracted a large number of small investors who had previously been unable to take advantage of short-term money market interest rates when they were high.

Read the prospectus before you invest; it gives details of the company sponsoring the trust, any guarantees offered to investors and lists the type of investments that will be purchased using investor's funds.

Returns offered by cash management trusts depend on short-term interest rate movements. The interest rate isn't fixed — it will fluctuate daily in response to interest rates on the short-term money market (see Figure 2 — CMT interest rates). A trust with a high return last month could have a low return next month. However, the advantage of cash management trusts is that they're generally low-risk investments offering competitive interest rates with your money available at short notice — usually within 24 hours.

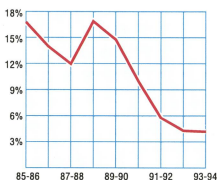


Figure 2. Interest rates for cash management trusts fluctuate daily, and have followed the general downward trend since the 1980s.

Playing the sharemarket

Before deciding to rent your home and invest your spare money in shares, think about the following points.

Whenever you purchase shares, you have to pay state stamp duty and brokerage fees. Brokers call investors 'private clients' and usually charge them 2.5% of their investment as brokerage for amounts below \$5000. This amount is reduced on a sliding scale for amounts over \$5000.

Shares are considered to be a more volatile form of investment than cash management trusts or residential property. The capital value of your shares and the amount of income you receive as dividends can rise and fall depending on economic and investment conditions. If the company does badly or goes out of business, you will lose money. However, shares give you much more flexibility than tying your money up in a property.

Figure 3, the All Ordinaries Index, shows how the sharemarket has experienced fluctuations over the past 20 years. It charts the daily rise and fall of about 92% of the mining, oil and industrial shares listed on the Australian Stock Exchange. Although there are booms and slumps, there is generally a steady upward movement.

The All Ordinaries Index demonstrates that, for small investors, buying shares needs to be a long-term commitment. Buying and holding shares for the long haul means you are able to smooth out the peaks and troughs in your investment performance and should be able to make a healthy long-term capital gain.

Timing is important, however. It's essential to buy when the market appears to be in a trough and sell when share prices are on the increase. If you do the reverse, you could lose money. And don't restrict yourself to one company — if its shares drop in value you could lose.

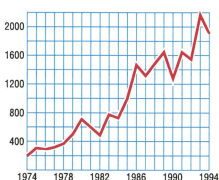


Figure 3. The All Ordinaries Index: although there are peaks and troughs, the general trend has been up.

Our study

OUR SAMPLE SCENARIO SHOWS THAT, in the right circumstances, you *can* make the same long-term profit by renting your home and investing in shares as by buying your home. However, our example 'investor' wouldn't make as much money by placing their savings in a cash management trust — and we think that would be true for a lot of people.

The scenario presents a basic picture of the difference between buying a home or renting and saving money in other ways. The results are based on historical averages, and changing any of the variables outlined below would obviously change the details of the outcomes. For example, we based our analysis on a weekly rent of \$140 (indexed for inflation); if the rent were appreciably higher and other variables like available investment capital remained the same, buying the home would be much more profitable.

Use our analysis to get a feel for the costs and benefits of the different options, but we'd advise you to get independent advice based on your individual circumstances before you make any major financial decisions.

■ **Buying property:** To give an indication of what you could expect to pay over the life of a home loan, we based our scenario on average home loan interest rates for the past 20 years and came up with a figure of 12.16%. We also averaged inflation (8.5% for the past 20 years) to determine the approximate amount of equity our imaginary investor would have in their home. In addition, we assumed that property values have increased by an average of 1.25% a year above inflation over the past 20 years.

We used these average figures to find out how much an average home would have increased in value over the years, as opposed to how much money our investor would have accumulated if they'd chosen not to buy a home.

■ **Cash management trusts:** We averaged the interest rate returns generated by cash management trusts since they were introduced in 1980 (which came out at 11.19%) and used the current rate for fund management fees (1.25%) to determine the income our investor would receive from this investment. Income generated from the cash management trust was taxed at 34% (our investor's marginal tax rate).

NORTHERN NESTEGG

When Pam and her husband Andrew purchased their first Sydney home in 1973 for \$36,000, it seemed the natural thing to do. "I always had the impression it was essential to have your own home and not pay rent when you get old," Pam says.

The \$100 per month mortgage payment, however, proved difficult to meet at first. Both Pam and Andrew had just finished university and their wages were low. Times became even tougher three years into the mortgage when Pam left work to have their first child and Andrew was retrenched.

But it became easier as the mortgage continued, and the exercise proved worthwhile when they sold their first home in 1984 for \$104,000 to buy another nearby for \$139,500. This time their mortgage was \$60,000 — the house needed a new kitchen, electricals, paint job, roof repairs and new gutters, all of which totalled \$22,500.

Two years ago they spent an additional \$100,000 on their house. Before the renovations, the house was valued at \$400,000; it has recently been valued at \$500,000.

"When we upgraded to the second house with a bigger mortgage, money was tight for a while. It took five or so years each time we mortgaged before things got easier," Pam says.

Despite the short-term financial constraints, Pam says she would do it again. "There's no way we would have saved this amount of money," she explains. "Now when we're old and grey we won't be paying any rent."

In addition, the house could be sold and used to finance Pam and Andrew's retirement "if things got tough" but she's hoping to keep living there. "We're close to the shops and train and it's flat terrain, so when I'm old and arthritic I'll still be able to get around the area," she says. But more importantly, the house represents an asset she can hand down to her three children to "give them a good start".



AFFORDABLE CITY LIVING

Chris has lived in rented accommodation for the past 18 years. His choice of renting over buying a house enables him to live in the type of house and area he wants to — a two-bedroom terrace house in the Sydney suburb of Surry Hills. And it has enabled him to take calculated risks and make career choices which would have been more difficult, had he been "tied to a mortgage". "I don't like the idea of being in debt for the rest of my life," he says.

But he also doesn't see himself renting for the rest of his life. For one, he can't improve the houses he lives in, maintain them and work in the garden, which he likes to do. "You're at the mercy of the landlord," he says. "They're often not interested in doing that sort of thing and let the place run down so you're forced to move."

Over the past 18 years, Chris has moved every year or two, but he's been in the area he lives now for 12 years. Houses there of the type he currently rents would cost about \$250,000 to buy. And as a single earner, you'd need a good deposit if you didn't want to overcommit yourself with high repayments.

Considering current house prices, Chris would prefer to build his perfect house rather than buy what's on the market. To save up for a deposit when he's ready to tackle that plan, he has invested in shares, has an insurance bond and a term deposit and pays extra superannuation. "I assume they're a reasonably good investment," he says. "If I had a mortgage I know I'd be obsessed by payments and interest rates, whereas the investments are flexible enough for me not to have to worry about them."



■ **Buying shares:** To assess how our investor would fare if they decided to rent a home and buy shares, we used the All Ordinaries Index to average the capital growth (11.9%) you could expect to generate from investing in the sharemarket over 20 years. Current brokerage rates (2.5%) — including stamp duty — were taken into account when calculating likely returns. Any dividends received from shares were reinvested — used to purchase more shares. Capital gains from share investments were again taxed at the investor's marginal rate of 34%. We assumed 60% of the shares purchased were fully franked, so only 40% of dividends were unfranked and taxable. (If all the company tax has been paid on the income which went to the dividend, it's called a fully franked dividend and the investor does not have to pay any further tax on it.)

OUTCOME ONE: Buying a home

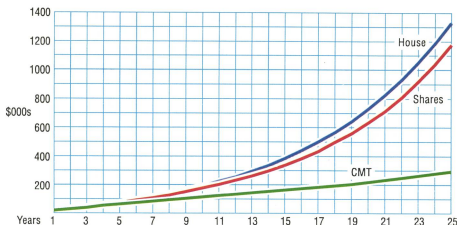
What is the end result of taking out a 25-year mortgage on an average property with a value of around \$120,000? With our assumptions, after 25 years of paying off the mortgage, our investor's total assets would be \$1.3 million. If our investor had rented instead at the weekly rent chosen and used the initial \$12,000 deposit — plus the difference between rent and what they'd be paying out on a mortgage — to invest in the sharemarket, the outcome wouldn't have been significantly different.

Even if home loan interest rates increase, the difference between the worth of buying a home or investing in shares stays marginal.

After 14 years, it becomes more expensive for the investor to rent a home than it does to make mortgage repayments. From this point on, we assumed the renter couldn't invest any more money in the sharemarket or cash management trust, but our buyer could use the difference between their mortgage repayments and what they would have to pay out in rent to invest in shares or a cash trust.

However, even investing this additional money, the investor wouldn't be significantly better off overall buying a house than renting and buying shares.

We also took tax into account. Home ownership is the most attractive option from the point of view of minimising taxation. Your principal place of residence is exempt from capital gains tax if you don't sell it within a year of purchase.



OUTCOME TWO: Renting and buying shares

For the particular set of variables used in our scenario, our results appear to debunk the myth that buying a home is always the best way to accumulate wealth. If you have the discipline to save, it is possible to rent your home and make a reasonable capital gain on the sharemarket.

All other factors remaining the same, this outcome would change if rents were to rise significantly. As rents increased, our investor would be left with less and less money to invest in shares. In this situation, they would be far better off using their money to pay off a mortgage. For instance, if weekly rent is \$195 rather than \$140, the renter who invests in shares falls further and further behind the home buyer.

Unfranked dividends (see left) also attract income tax at the investor's marginal rate and if they were to sell their shares, they would have to pay capital gains tax on any profit made above inflation.

OUTCOME THREE: Renting and investing in a cash management trust

The cash management account was the least attractive option for our investor. At the end of the 25-year period, the investor's total assets would equal \$300,000 if they'd rented a property and invested the initial \$12,000 plus any money left over after paying their rent into a cash management trust.

The major reason why the cash management trust option performed so poorly in comparison with the options of investing in shares or buying a home is its tax treatment. All earnings made by depositing money in the cash management trust have to be taxed at the investor's marginal tax rate.

This result has to be weighed up against the fact that a cash management trust is a less risky investment than shares. A cash trust may be an excellent short-term investment option while you're building your savings to put towards a deposit on a property or towards building up a portfolio of shares. □

BUYING A HOME CHECKLIST

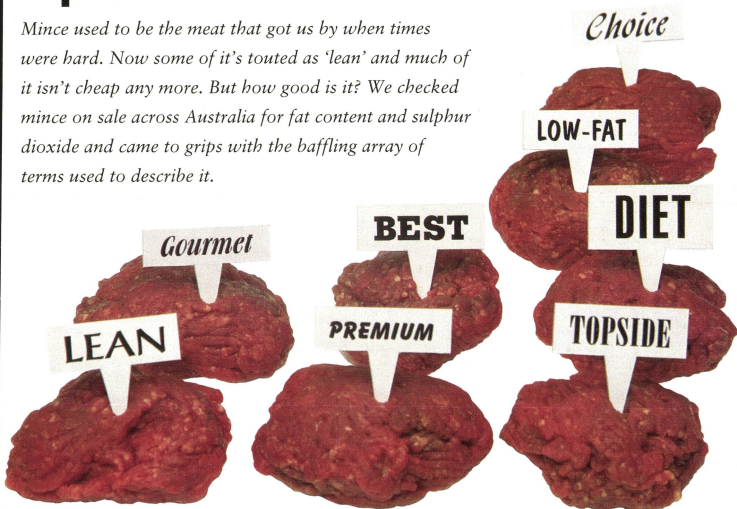
Here are some points to consider before buying a home or applying for a loan.

- Do you have a stable income?
- Have you thought about how much you'll need to cover up-front costs?
- Will your mortgage repayments leave you enough of your income to live on?
- Can you accommodate any interest rate rises on your mortgage?
- Can you afford ongoing maintenance, insurance and repair costs for your home, and any unexpected expenses?
- Is the property in a high demand area and is it likely to retain its value or gain greatly in value over time?
- Can you afford to increase repayments early on in your mortgage to make things easier if you or your partner wants to leave work to start a family further down the track?
- Should you consider income protection insurance so that unforeseen hiccups won't affect your ability to repay your loan?
- If your deposit is less than 20% you may need to take out mortgage insurance.
- Do you have a good consistent savings record?
- Do you have a good repayment history for other loans?
- Have you shopped around for the best mortgage option?

If you've answered 'yes' to most of these questions, you're probably in a good financial position to consider buying a home.

A pound of flesh?

Mince used to be the meat that got us by when times were hard. Now some of it's touted as 'lean' and much of it isn't cheap any more. But how good is it? We checked mince on sale across Australia for fat content and sulphur dioxide and came to grips with the baffling array of terms used to describe it.



AUSTRALIANS BUY A LOT OF mince. After bread and milk, it's the biggest-selling staple food in the country. It used to be relatively cheap and it's versatile. With half a kilo of mince in the fridge, you've got a dozen different dinner options at your fingertips, from a bolognese sauce to humble rissoles.

Modern mince comes labelled with a variety of names that suggest varying grades of quality: premium, gourmet, topside, best, choice (no relation to us), low-fat, lean, diet, regular, hamburger ... the list goes on. But how do you know what you're buying when you ask for one of these? What proportion of it is flesh and how much is fat?

We decided to check just how much shoppers in four cities were paying for their mince and exactly what they were getting. While we were at it, we tested

all our samples for the preservative sulphur dioxide — which, in most states, isn't supposed to be there (see *Sulphur sauce?* on page 14).

WHAT AND WHERE?

To check out the mince (beef only) on offer at Australian retail outlets, we purchased different grades from Coles and Woolworths/Safeway supermarkets, meat retail chains and independent butcher shops in four cities. Sydney and Melbourne were chosen as our largest metropolitan population centres, while Cairns and Darwin represent major regional cities. It also seemed logical to suppose that if preservatives are going to be used, it might well be in the tropical north where perishable foods are likely to perish faster.

We bought 154 samples from 89 different stores and tested them for fat

content and sulphur dioxide (SO₂). We noted what the grades of mince were called in an effort to establish whether the names bear any relation to the lean or fatty reality. We also compared similarly priced grades for fattiness in the different types of outlet to see if any type of meat retailer gives better value than others.

PRICE IS A POOR GUIDE

Some shops sell three or four different grades of mince that go by a variety of names. The one thing they have in common is that generally as price falls, fat content rises. As long as the mince samples were close to one another in price, there was no significant difference in the fat content whether they were sold in supermarkets, independent or chain butchers.

The correlation between fat content

and price across our test samples was particularly pronounced at the high and low ends of the scale. We found that mince priced \$8 a kilo or more is likely to be low in fat, while that costing less than \$4 a kilo is likely to have a high fat content. There were one or two fatty exceptions at the more expensive end, the worst being from one outlet of a Sydney meat chain, where we paid \$8 a kilo for a sample that weighed in with nearly 19% fat — that's very expensive fat.

Between \$4 and \$8 it's difficult to predict fat content. Looking at all our samples, it appears that paying more for mince in the \$4 to \$8 price range is no guarantee at all of getting more meat and less fat for your money. The fattiest mince in our test — almost 24% fat — was in the lower end of this range, while the leanest — only 1.6% fat — was right in the middle of it at \$6 a kilo.

Sulphur sauce?

It's well-known that adding a chemical called sulphur dioxide (SO₂) to mince can disguise meat that's past its best. Meat that has begun to brown because of oxidation can be made to look bright red, fresh and attractive. Sneaky? We think so. It's also potentially dangerous.

Certain people are sensitive to SO₂, particularly asthma sufferers. For these people, the addition of this chemical is more than just a dubious business practice to stretch the saleable shelf-life of a shop's stock: it's potentially deadly. SO₂ can trigger allergic reactions in these people that, at the extreme, could be life-threatening. That's one reason why adding it to some foods is not permitted under the Food Standards Code even though it poses no serious health threat to the vast majority of people. (SO₂ is still permitted in some states, but this is being phased out in the next 12 months.) SO₂ is used legally as a preservative in sausages, up to a set limit, and in other foods such as dried fruits and wine. People who are sensitive to it should be extremely careful to avoid sulphites and sulphur dioxide in all food they consume.

To a trained eye, the 'sulphite red' of doctored meat can be distinguished fairly easily from genuinely fresh meat. SO₂ sometimes gives meat a slightly strange 'orange' hue that experts can pick at a glance (see the photo above). In very high concentrations it reportedly gives itself away completely, by not allowing the mince to brown even in your frying pan!

We found SO₂ in about 10% of the samples we tested, indicating that this practice, while perhaps not rife, is common enough to cause concern. None of our SO₂-positive samples came from supermarkets; 10 were from independent butcher shops and six were from chain butchers.

MINCING WORDS

The recently revised Standard C1 of the Australian Food Standards Code defines just one term for mince. If sellers use the word 'lean', their mince must contain no more than 10% fat.

The Meat and Allied Trades Federation of Australia (MATFA) says it supports the requirements of Standard C1 — which you'd expect, since it's compulsory — but apart from that there are no industry guidelines on terms like 'best', 'choice' or 'premium'.

This leaves consumers up against a dictionary full of other descriptive words and labels that are applied to mince at the whim of the retailer — a totally unsatisfactory situation.

The Code of Practice on Nutrient Claims in Food Labels and Advertisements has been in place since early this year. It defines some terms which are sometimes used on mince:

■ **Lower fat or reduced fat** should mean at least 25% less fat than the product the label says it's being compared with.

■ **Low fat** should mean 3% or less fat.

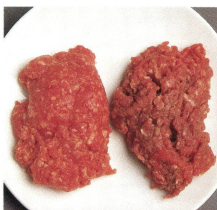
■ **Fat-free** should be 0.15% or less fat.

■ **X% fat-free** should only be used on foods with less than 3% fat (so a claim like '90% fat-free' is a no-no).

However, the Code of Practice is not compulsory — sellers can refer to it as a guide but they can't be legally forced to adhere to its requirements. (For more information on nutrient claims see CHOICE, February 1995.)

WHAT'S IN A NAME?

If the name's in a butcher shop or meat section of a supermarket, the answer to this question seems to be 'not much'. We bought mince called hamburger, top grade, best, regular, choice, gourmet, diet, lean, fine, premium, special, pure beef, steak, rump and topside, and they



The mince on the left contains the preservative sulphur dioxide. Once you're aware of the orangy-red colour it can give to the meat you may be able to spot it in shops.

If you're an asthmatic and have reason to think you're sensitive to sulphites, exercise extreme caution when buying mince. Medical authorities say there's no such thing as a safe level of exposure for such people. It may be better to avoid mince and other foods containing SO₂, like sausages, altogether.

WHO CAN YOU CALL?

If you're concerned that SO₂ has been added to meat you've bought, you can inform the appropriate health authorities listed below. In some cases they may be able to take action directly; in others they may refer you to the appropriate local authority. Keep a sample of the meat in question in your freezer. It might be needed for testing to see whether your concerns are justified and possibly enable action to be taken.

- **ACT:** Public and Environmental Health Service, ACT Department of Health and Community Care; telephone (06) 205 1700.
- **New South Wales:** Food and Nutrition Policy Unit; telephone (02) 816 0269.
- **Northern Territory:** Environmental Health Programme, Darwin Urban District; telephone (089) 22 7377.
- **Queensland:** Environmental Health Officer, Queensland Health Regional Health Authority in your local phone book.
- **South Australia:** Food Standards Unit, Public and Environmental Health Services, SA Health Commission; telephone (08) 226 6530.
- **Tasmania:** Department of Community and Health Services; telephone (002) 33 3753.
- **Victoria:** Environmental Health Officer at your local council.
- **Western Australia:** Environmental Health Officer at your local council.



The mince samples in the photos (left to right, from top to bottom) cost \$1.99, \$4.99, \$7.99, \$8.99 and \$9.99 per kilo. Our tests showed the price certainly won't help you work out which has the least fat, so can you tell by sight? The people we asked certainly couldn't make an accurate assessment in most cases, especially when the mince was finely ground (see *You be the judge*, below).

all overlapped each other in both fat content and price. The only consistent mince labelling term we found was the one defined in the Standard (see *Mincing words*, above): 'lean'. All the samples with this label had no more than 10% fat as required in the Standard.

The rest of the labelling game is a free-for-all. We found 'diet mince' — the most expensive category on average in the test — with 1.6% fat and with 10.6%. There was a 'premium' mince with 4.3% and another with almost 20%! Even within a single supermarket chain, this same term covered a range of fat content from 4.3% to 6.9% in the Coles stores we checked, and 7.2% to 14.5% in the Woolworths/Safeway outlets. The same applies to retail butcher chains. One sold a 'premium' mince with 11% fat in one of its shops and the same grade with nearly 20% at another. So what exactly is 'premium' mince?

When buying mince, beware the words: '100% fat-free'. On a meat product this is not a description but an impossibility. Other terms are sometimes used in a way that, though technically correct, can easily convey the wrong impression: '100% pure beef' sounds slim, trim and terrific, but it could simply signify the mince is all 'cow', including plenty of beef fat.

Some 'premium' mince on sale in Woolworths was labelled as being '90% fat-free' and therefore should have been no more than 10% fat. Although most samples were OK, one was 14.5%. The prize for the 'x% fat-free' category is shared by the Sydney chain outlet whose 'no fat' mince was really 12.3% and the independent Melbourne butcher whose '100% fat-free' product was 10.1% fat.

One really noteworthy feature of all these terms is the way they fail to correspond to price expectations. For exam-



ple, one shop's 'best' was cheaper than another's 'hamburger'. The fat content in mince labelled 'best' ranged from the highest in our test (nearly a quarter fat!) to some of the lowest.

FLESH OR FAT? YOU BE THE JUDGE

Do you think you can tell cheap, fatty mince from the good stuff? To test whether visual inspection is a good guide to fat content, we set up a test and had 13 non-experts try to rank samples of mince in order of fat content. The ranking exercise involved five samples each of finely ground and coarsely ground mince, and another five samples that included both (see photos above).

The results of this exercise demonstrated that it's possible for some people, some of the time, to make a reasonably accurate assessment of how fatty different mince samples are by sight alone, but it's a judgment that's prone to error.

It seems the finer mince is ground, the more difficult it is to make this judgment — especially if you're trying to compare coarse with fine. Only one person on our viewing panel managed to get the mixed batch in the right order. Of



our 13 panellists, 11 thought a finely ground mince sample had less fat than another that was coarsely ground, but in reality they had identical fat content. The fat in mince is less visible when it's ground up finely and distributed evenly through the mixture than when it's present in large white lumps. So what you see may not be what you get. The only way to be sure is to believe only the label 'lean', which must — and according to our tests does — contain 10% or less fat. □

Something in the air

Traditional high-polluting industries may have cleaned up their act, but our ever-growing use of fuels for transport and domestic purposes means the air we breathe isn't as clean as it could be. What are the major sources of air pollution in Australia? How does it affect your health and the environment, and what can you do to reduce it?

EVEN IN WILDERNESS AREAS, THE air we breathe is not clean and pure. It contains a number of natural pollutants such as dust, smoke from bushfires, salt particles from the ocean and gases from decaying plants and animals. Without man-made sources of pollution, nature is able to cope with these natural air pollutants. They're dispersed and diluted, washed out by rain or settle on the ground.

When there are too many man-made pollutants around, or under adverse weather conditions, this natural 'cleansing' cycle is disrupted and air pollution becomes a problem. The age of industrial development has tipped this fragile balance into the danger zone.

Air pollution and the weather

When pollutants are released into the atmosphere, the prevailing weather conditions — sunlight, temperature, rain and the direction and speed of wind — influence their concentration in ambient air.

■ Sunlight causes photochemical reactions in the atmosphere. Together with volatile organic compounds (VOCs) and nitrogen oxides, it produces photochemical smog.

■ On a hot sunny day, photochemical smog is produced much faster than in overcast winter months.

■ In light winds, pollutants released in an industrial estate or in a high-traffic area are transported more easily than in still conditions, but so-called urban street canyons (parallel blocks of high-rise buildings) can trap the flow of air.

■ Once dispersed, pollutants can travel long distances and affect other areas. Breezes can move large amounts of air pollutants from industrial and high-traffic zones to residential areas in outlying suburbs. If these areas are surrounded by mountains, winds can trap the pollutants many kilometres away from where they were emitted.

■ During hot and dry spells, dust from soil erosion and smoke from bushfires can be a major source of particle pollution. Controlled burning during winter can have similar or worse effects, as there's generally less wind in cooler months.

■ In cold weather there are fewer photochemical reactions in the atmosphere, but as generally more fuel is burnt for heating, more particles are released into the air, which can create brown haze.

■ Rain can wash some soluble gases and particles out of the atmosphere, but it can also become mildly acidic and corrosive in the process and can cause damage to buildings and ecosystems.

Industrial emissions such as sulphur dioxide still cause concern in some places. However, the generally lower sulphur content in Australian minerals — and the fact that our industry is less concentrated than in some European countries or in the US — mean we don't have the acid rain problems other countries have experienced. Sulphur dioxide emissions here are generally well within internationally accepted health limits.

The cocktail of air pollutants released from vehicle emissions is a much more serious problem in Australia and





poses a much greater danger to our health and to that of our planet. See the table overleaf for details of pollutants and their effects.

Too many cars

Almost a third of the world's commercial energy is used for transport, and 70% of this is used to move people. The car is the biggest contributor to Australia's air pollution problem. Among road, rail, sea and air traffic, the motor vehicle is the most significant source of pollutants.

Between 1970 and 1990, Australia's population grew by 30%, while the number of cars used nearly doubled. At the end of June 1993, just over 10.5 million vehicles were registered in Australia; nearly 80% were passenger vehicles. Predictions are that in major cities like Sydney, the total number of kilometres travelled by vehicles will increase by 30% over the next 25 years.

In major urban centres such as Sydney and Melbourne, motor vehicle emissions contribute about 90% of the carbon monoxide, 80% of the nitrogen oxides, 50% of the hydrocarbons, 12% of the sulphur dioxide emissions and 46% of airborne particles on a typical summer's day.

Effects on the environment

Air pollution can seriously harm plants and animals. It can also damage and soil the outdoor surfaces of buildings and works of art. It can contribute to ozone depletion in the upper atmosphere (stratosphere), which could lead to higher skin cancer rates, as more harm-

ful ultraviolet radiation reaches the earth's surface. It could also contribute to global climate warming, as many of the most common air pollutants are also greenhouse gases (which include carbon dioxide, halons, chlorofluorocarbons and methane).

Scientific evidence indicates the earth's climate will change significantly in the future. We can expect less rain overall with spreading droughts, yet more short periods of intense rainfall resulting in floods. Sea levels may rise and threaten mangroves, corals and coastlines, which is of major concern to some island communities. The incidence of malaria and other tropical diseases

spread by mosquitoes or other pests may increase. All these effects would threaten worldwide food production and people's livelihoods. To keep the consequences of global warming under control, we *must* reduce the amount of greenhouse gases we release.

Effects on your health

The way air pollution affects your health and to what degree is difficult to establish. It depends on the pollutant, its concentration, the length of time you're exposed to it, your sensitivities, whether you smoke or you're regularly exposed to smoke or chemicals, or are allergic to dust mites, pollen or other allergy triggers. All these factors can influence the degree to which you feel the effects of air pollution. Because of the complicated nature of identifying links between air pollution and ill-health, there's a general lack of conclusive scientific data.

"The real difficulty we have when we pollute everywhere is to come to any conclusion about what it is that's doing the damage," says Dr Mark Donohoe, President of the Australian Comprehensive Medicine Association. He points out that researchers must do more than attempt to link certain diseases with certain pollutants, as many of them interact with other pollutants, chemicals or allergens.

There is one known factor various respiratory diseases can be related to — smoking. It's by far the single most important cause "and it dramatically increases the risk and toxicity of many other chemicals we're exposed to," says Dr Donohoe.

ENVIRONMENTALISTS' VIEWS

We asked some environment groups what they believe constitutes the major air pollution problem in Australia.

Elizabeth O'Brien, Total Environment Centre (Sydney):

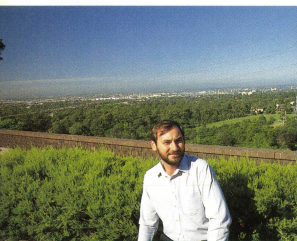
"The car is the most runaway creator of pollution and it's accepted. Everybody would complain if someone decided to put a factory in their area, but people generally think it's great when they get a new road. So we have to change the mindset and make people realise that the road brings traffic and traffic brings pollution and pollution brings ill-health."

Michael Bland, Greenpeace:

"If you wanted to design a pollution machine, you couldn't have come up with a better contraption than the internal combustion engine." He believes governments should encourage people to use other forms of transport instead of private cars — walking, bicycles and public transport.

John Stone, Environment Victoria:

"Our big worry here is that the EPA is supporting the view that more freeways mean more free-flowing traffic. But we believe that's fallacious. Freeways generate more traffic." To see more roads as the solution to the traffic problem "is a real failure of the imagination", as roads have created the problem in the first place.



Certain grass pollens, dust mites and cigarette smoke trigger most of Joe Sydney's asthma attacks. "Although they say it's not proven, I can feel the symptoms coming on when there are heavy particles in the air," he says. "During the bushfires last year, I opened the door at home and it hit me. I started coughing and wheezing and had problems breathing. You could see the smoke haze all over Sydney in the background." Joe is pictured here approaching Sydney on his way to work.

Pollution country-style

City traffic exposes people virtually continuously to low doses of the pollutants in vehicle emissions. Concentrations of these are usually lower in the country, but people living close to or working in agricultural production may be exposed intermittently to high doses of herbicides, insecticides and fungicides. Some of the chemicals in these sprays have been linked — though not conclusively — to increased rates of leukaemia, lymphoma, breast and prostate cancer, and to chronic fatigue syndrome.

In some people, exposure to pesti-

cides may also trigger asthma attacks, but again, there's no clear link between pesticides — or the interaction of pesticides with other environmental allergens — and respiratory disease rates. In some country areas where asthma rates are higher than in cities, people are also exposed to higher levels of indoor allergens or to certain pollens, mould and spores in the outside environment.

Over the years we've changed the way we live, so it's difficult to pinpoint the degree to which a single factor influences the asthma risk. For example, we build more energy-efficient houses and

so allow for less ventilation; we use more carpets and soft furnishings in which house dust mites (a common allergy trigger) can accumulate, and we've changed farming practices.

Asthma and air pollution

Asthma rates are alarmingly high. In Australia and New Zealand they're the highest in the world and they're increasing in severity and at faster rates than in other countries. In Australia, one in five children, one in seven adolescents and one in 10 adults suffers from asthma.

These are the nationally accepted figures, but in certain areas and under certain conditions they may be much higher. For instance, research indicates Lismore has house dust mite levels higher than have been found in any other Australian town, and that an apparent epidemic of asthma in Tamworth could be associated with high levels of allergenic rye grass proteins in the air after thunderstorms. Over the last decade, the prevalence of childhood asthma has doubled in Australia, but research attempting to link asthma with air pollution has come up with mixed results.

Separate studies in Sydney and Melbourne, for example, looked at asthma sufferers' hospital attendances or admissions. There were no increases reported

SOME COMMON POLLUTANTS HAZARDOUS TO HUMAN HEALTH AND THE ENVIRONMENT

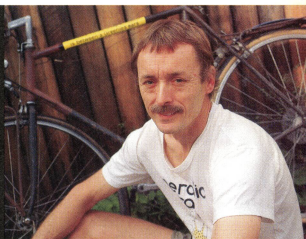
Pollutant	Characteristics	Man-made sources	Natural sources
Carbon dioxide (CO ₂)	Colourless, odourless gas.	Combustion of fossil fuels, deforestation, land use changes. Main contributors: industry and transport.	Decomposition and respiration of plants and animals. Natural component of earth's atmosphere.
Carbon monoxide (CO)	Colourless gas. Almost undetectable odour and taste.	Combustion of fossil fuels. Vehicle emissions contribute about 85% — more than all other sources combined.	Oxidation of methane in the atmosphere (as organic matter decomposes), emissions from the sea and combustion processes.
Lead	For details see <i>Lowering lead levels</i> , CHOICE, May 1995.		
Nitrogen oxides (NO _x) which include nitrous oxide (N ₂ O), nitric oxide (NO) and nitrogen dioxide (NO ₂)	Components of photochemical smog.	Combustion of fossil fuels, burning of organic matter, soil cultivation, intensive use of fertilisers. Major contributors: motor vehicles (which contribute at least 50% in most cities), power stations, industrial processes, solid-waste incinerators.	Processes in the air, soil and water such as lightning and biological activity in soil.
Ozone (O ₃)	Colourless gas. Main component of photochemical smog, which is visible over cities as a whitish haze in summer. Vital in the upper atmosphere to shield the earth from harmful ultraviolet radiation.	A major constituent of and crude indicator of exposure to photochemical smog, which is formed in the lower atmosphere by a chemical reaction between hydrocarbons, nitrogen oxides and sunlight. Major contributors: motor vehicle emissions and industrial processes.	During severe atmospheric disturbances, ozone from the stratosphere may be forced towards earth.
Particulates	Total suspended particulates (TSP) include: large particles such as dust, fine particles smaller than 10 microns in diameter (PM ₁₀) and very fine particles (PM _{2.5}). One micron is a millionth of a metre or a thousandth of a millimetre.	Combustion of fossil fuels. Main contributors: power stations, cars, mines, incinerators, industrial processes, construction.	Wind-blown dust, smoke (from bushfires), volcanic emissions, plant pollen, sea salt, bacteria.
Sulphur dioxide (SO ₂)	Colourless, pungent, irritating gas, soluble in water.	Combustion of fossil fuels, smelting of mineral ores containing sulphur. Main contributors: power stations, oil refineries and primary metallurgical works.	Decomposition and combustion of organic matter, sea spray, volcanoes.
Volatile organic compounds (VOCs)	Group of chemicals.	Emitted from solvents and petrol fuel in industrial processes and vehicle emissions.	Benzene (one of the VOCs) occurs naturally in crude oil.

in Sydney at times of high ozone levels, but the Victorian study found that higher ozone levels had increased hospital admission rates. Of course, such statistical data is not conclusive proof that a link does or doesn't exist. Even if other contributing factors have been considered, statistics may be skewed as not all asthma sufferers seek medical advice when their symptoms worsen. They may just increase their medication as they need it.

Few epidemiological studies have been done in Australia on the possible connection between asthma and air pollution. According to most of the experts we spoke to, the evidence that air pollution increases the risk for asthma sufferers is not as strong as is generally believed by the public. However, none of them denied that some asthma sufferers can be affected by high levels of air pollution.

Most evidence linking air pollution with asthma and other respiratory diseases — and lately also with heart disease — has come from overseas. The major air pollutants implicated in rising disease rates and premature deaths — or contributing to the severity of a disease — are ozone, sulphur dioxide, these two pollutants in combination, ozone in combination with pollen, and fine parti-

Jim Lemon gets his exercise by cycling to work and home most days. He leaves at 6.30 am for the 35-minute trip. If he left home half an hour later, there'd be solid traffic. "It's a problem not having the space you need. You're either in the gutter or next to a parked car with doors opening. I got hit by a car door opening twice," he says. To make bike riding safer and more enjoyable in our cities, "We need to improve the way roads are used," he says.



cles. According to estimates by the US Environmental Protection Agency (US EPA), these fine particles (also called PM₁₀ — see the table below) may be responsible for 60,000 premature deaths in the US each year.

Various health studies are currently under way in Australian cities and industrial areas which examine air quality in relation to asthma, mortality and sickness levels in the community. The NSW studies are expected to be completed and findings released late this or early next year. The results will help shed further light on this complicated area.

Michael Hensley, Professor of Medicine at John Hunter Hospital and Director of the Newcastle Environmental Toxicology Research Unit:

"We shouldn't dismiss air pollution because we anticipate that it's not playing a large role [in health problems]. There may be quite a complex interaction, especially with allergens. And we should also look more critically at the measurement of individual exposure."

Current levels	Health risks	Other risks/damage
Atmospheric levels have risen from about 290 parts per million (ppm) in 1880 to the present level of about 350 ppm. Future increases could raise atmospheric temperatures.		Greenhouse gas. For details on the health and environmental effects of global warming see <i>Effects on the Environment</i> on page 17.
Levels have generally fallen in our cities since the introduction of higher emission control standards for cars in the mid-1980s.	Depletes oxygen in blood and body tissue. Very toxic in high concentrations; causes death with prolonged exposure. At lower levels CO can cause nausea, headaches, giddiness and generally reduced response times. Prolonged exposure to low-level concentrations may impair higher nervous functions and contribute to heart disease.	Can be oxidised to form carbon dioxide.
See ozone — below.	NO ₂ is a respiratory irritant which can cause bronchitis, lower the resistance to respiratory ailments and may exacerbate asthma. Repeated exposure may affect lung function.	N ₂ O is a greenhouse gas; it can cause acid rain, reduce plant growth and damage leaves.
Levels vary widely in our cities, and they usually increase during summer. Concentrations have fallen markedly in the last decade, but in large urban centres they still exceed NHMRC health goals on occasions and regularly exceed the lower WHO goals (see <i>Protecting people</i> on page 20).	Causes respiratory and eye irritation, aggravates asthma. Repeated exposure can affect lung function.	Can damage vegetation and reduce crop yields. Prolonged exposure can crack rubber, weaken synthetic fibres and fade paints and dyes. Is also regarded as a greenhouse gas.
The methods used to measure these particles vary. TSP is usually measured by visibility. In major industrial and urban centres, levels have significantly fallen over the last decade but they sometimes exceed desired goals.	Can affect respiration and aggravate respiratory illness. Fine and very fine particles are of particular concern because they can penetrate deeply into the lungs where they may cause respiratory problems, and because they can trap potentially toxic pollutants which can then move into the blood stream.	Can reduce visibility and soil materials. Contribute to brown haze.
In Australian capital cities, emissions are generally well below internationally accepted health limits, though levels may sometimes be higher in some industrial centres.	Irritates bronchial mucous membrane, conducive to asthma, bronchitis and emphysema.	Main cause of acid rain, which affects forests, lakes and rivers and damages flora and fauna; also corrodes building materials.
VOCs are not monitored regularly.	Can cause eye irritation, drowsiness and coughing. Benzene is a carcinogen; in high doses it can cause leukaemia, neurotoxic symptoms, bone marrow injury and anaemia.	VOCs help form ozone.

Fixing the problem

To keep air pollution to a minimum, we have to reduce industrial emissions and private car usage and regularly monitor emissions and air quality.

Protecting people

Currently no ambient air quality goals or standards apply to Australia as a whole. The National Health and Medical Research Council (NHMRC) recommends health goals and it's up to the state governments whether they adopt and monitor them. Most do; some take them as a guide; some use the goals set by international agencies such as the World Health Organization (WHO) or the US EPA — which may be lower than the national goals — and some adopt the international goals for pollutants the NHMRC does not cover.

But the degree of protection you get from pollution shouldn't depend on which state you live in. That's one of the reasons why the Commonwealth Government proposed establishing a National Environment Protection Council (NEPC) — made up of state and Commonwealth ministers. At the time of writing, some states had already committed themselves to the council. Legislation should have been passed in other states by the end of June. With the exception of WA, all the states and territories are participating.

The proposed NEPC will have responsibilities for setting national environment protection measures. They can include, as appropriate, mandatory standards, desirable goals, guidelines (on how to achieve the goals), protocols (on how to measure whether standards or goals are being met) or a combination of these. The main improvement on the current system is that once these measures are set, participating states must adopt them automatically and then report on progress.

The NEPC measures will not replace any more stringent measures which a state already has in place, or intends to introduce to protect a special environment. We hope sufficient resources will be set aside so that the new NEPC can proceed promptly to establish binding national environment protection measures.

International comparisons

For carbon monoxide and nitrogen dioxide, the NHMRC goals are comparable with those of other international agencies. However, for other pollutants, Australian goals are less strict than some set in other countries or by the WHO. The NHMRC reviews health goals when new research results or other evidence emerge. It is currently reviewing the goals for ozone and sulphur dioxide and is considering preparing a goal for PM₁₀. The ozone review is expected to be completed by the middle of the year.

We agree with some environmentalists who argue that the NHMRC review procedures take too long. The ozone goal was set in 1987 at 0.12 ppm (parts per million, a measurement of the airborne concentration of a substance) averaged over one hour. This goal roughly converts to 240 micrograms per cubic metre. Since the early 1990s, advisers have recommended lowering this goal to 0.08 ppm, in line with the WHO guideline, as well as introducing a new goal of 0.06 ppm, averaged over four hours, as people may be exposed to ozone for longer periods. These recommendations are based on recent research which indicates that lowering the goal would benefit people's respiratory health and could save lives.

The NHMRC couldn't give us an indication of when the sulphur dioxide review would be complete. Recommendations to the NHMRC are to retain the current goals for one-hour and ten-minute exposure, but to halve the goal for the annual mean and to introduce two new goals in certain areas to protect especially sensitive vegetation.

Finding out about pollution

The states' EPAs or environment departments may be able to supply you with data on the major air pollutants in your local area, but the information provided is not always easy to understand. We asked all the relevant state offices for information on the state's air quality and



Although city air pollution levels have fallen since the introduction of emission-control technology in cars, predictions are that increases in the number of cars and in distances travelled could erode these gains.

monitoring regulations, but the quality of the data we received varied greatly. Even the data from those states that provided comprehensive information (NSW, SA, Victoria and WA) is not necessarily user-friendly.

Finding out about the state of the environment in Australia as a whole is an even more difficult task. The most recent publication covering the whole country is already three years old and much of the data it contains is from the late 1980s.

Following the example of some countries, the Commonwealth's Environment Protection Agency is establishing a National Pollutant Inventory (NPI) — a regularly updated information system which will record major pollutants and wastes released into the environment. Such an inventory will go some way towards satisfying the public's right to be informed by industry and government about the risks it faces from toxic and hazardous materials released into the environment.

Considering the effects of global warming, it is imperative that carbon dioxide, though not regarded as a traditional air pollutant, be included in the NPI. When we went to press, various states and regions were conducting trials for the proposed NPI; a framework should be ready very soon and implementation details should be worked out within a year.



are mandatory. But they've proved unreliable, failing cars that should have passed and vice versa.

Emissions vary greatly under normal driving conditions and in laboratory tests. It has proved difficult to design a test which is both accurate and affordable enough for service stations and motor vehicle repair shops to use. But research in Australia is well under way to come up with an accurate test, which could be done in about five minutes at a service station instead of taking two days in a sophisticated laboratory. According to the NSW EPA, such a test could be ready for a pilot run in about a year's time. The agencies involved in its development are also looking at programs to upgrade the skills of service personnel.

The Commonwealth is responsible for ensuring that new vehicles meet pollution control standards. Through its Federal Office of Road Safety, and in collaboration with the states, it develops Australian Design Rules (ADRs) which cover safety, emissions and noise regulations.

The standard for catalytic converters and unleaded petrol (ADR 37) currently applies to new cars made in or imported into Australia (to be exact: petrol-engined vehicles up to 2.7 tonnes, which include cars and light commercial trucks and buses). They must meet certain performance standards in terms of emissions. Manufacturers can achieve these standards by fitting catalytic converters and designing cars to be run on unleaded petrol. ADR 37 is currently under review to reduce emissions further, in line with more recent US standards. The new

ADR 37/01 will come into effect on January 1, 1997, and will be phased in progressively over two years.

The introduction of tighter emission standards for vehicles in the mid-1980s has resulted in carbon monoxide emissions falling in our cities. If properly maintained and operating, catalytic converters can significantly reduce vehicle emissions. They only work with unleaded petrol, which has reduced lead levels in the air considerably since 1986. By February 1995, sales of regular unleaded petrol had risen to about 56% of all petrol in Australia. With fewer cars using leaded petrol on our roads in future years, lead levels are expected to decrease further.

Catalytic converters also reduce fine particles, nitrogen oxides and hydrocarbon levels in vehicle emissions. But there are many pre-1985 cars without catalytic converters still on our roads and many more which release excessive amounts of pollutants because the equipment isn't working properly. That's why developing an in-service test is so important.

Diesel engines generally produce lower levels of air pollutants than equivalent petrol engines, but their emissions contain significantly higher levels of small particles and substances which can contribute to cancer and/or genetic damage, among them benzene.

Since the introduction of unleaded petrol, the benzene content in petrol has increased in some overseas countries. Standard fuel in the US contains about 25% benzene. In Australia, however, the benzene content of both leaded and standard unleaded petrol has remained

Controlling industry

State and territory governments are responsible for controlling air pollution from stationary sources. Industries with a potential to pollute have to be licensed and must abide by each state's environmental protection laws. If a company breaches the law, the state — usually through its EPA — can attach conditions to the licence, negotiate improvements, order the owner of the plant to install appropriate pollution control equipment, or prosecute.

Controlling the mobile polluter

Some state environmental protection laws include vehicle emission regulations. In NSW and Victoria, for example, you can be fined for driving a car that emits smoke for 10 or more seconds continuously. Anybody can do you in. When your car is first spotted, you're contacted and asked to have it checked and repaired. If you don't fix the problem and it's seen belching out smoke again, you can get fined on-the-spot. In the ACT and NSW, mechanics check a car's pollution control equipment in annual registration inspections; in Victoria, such checks are done randomly. But these tests don't reveal the level of emissions or whether the catalytic converters are working efficiently.

An accurate vehicle emissions test could significantly reduce air pollution caused by cars. In 22 US states such tests

STAYING INDOORS IS NO SOLUTION

With a few exceptions, people spend most of their time indoors rather than outside. But staying inside won't necessarily lower your chances of exposure to air pollutants. The air quality in our homes can often be worse than outdoors. Some experts believe our indoor air exposes us to much higher concentrations of pollutants. Asthma sufferers might be particularly affected.

Among the possible pollutants are formaldehyde (emitted from building materials and disinfectants), radon gas (released from the soil), pesticides, ammonia and chlorine (from cleaning products), a wide variety of volatile organic compounds (VOCs, mostly released from solvents used in paints and building materials, cosmetics and photocopiers) and dust mites (which accumulate in carpets, mattresses, quilts and soft furnishings). Those commonly found in both outdoor and indoor air include particles, carbon monoxide and carbon dioxide (released from the combustion of fuels for heating and cooking), allergy-triggering substances occurring naturally in the environment (such as airborne pollen, bacteria, fungi and moulds) and cigarette smoke.

For more information on indoor air pollution see *Home sick* in our January 1993 issue.

below 3%. Only premium unleaded petrol—which makes up about 1% of sales in Australia—has higher benzene levels, but they're still below 5%.

Air toxics such as benzene are not routinely monitored in Australia. A pilot toxics program by the NSW EPA found benzene levels recorded in the general community to be very low. Considering the toxicity of substances like benzene, we think they should be regulated and monitored regularly.

To make sure the pollutants in diesel fuel don't erode the gains made from other pollution control measures, a new design rule (ADR 70) will be phased in over the next two years for diesel-engined vehicles of all sizes. It will control hydrocarbon, carbon monoxide and nitrogen dioxide levels and particles.

The way to go

To ensure that the air we breathe is not making us sick, harmful pollutants in ambient air must be kept low. To do this, we have to measure them appropriately—at inner city sites, near highways and agricultural production areas, where levels are high and reflect people's actual exposure.

Although air pollution levels from motor vehicles have fallen with the introduction of pollution-reduction measures, there's no room for complacency. Predictions are that increasing numbers of cars on the roads and distances travelled will erode the gains made, if no further control measures are introduced. Apart from developing and implementing improved emission control technologies, governments and communities

need to rethink land use and transport policies to lower the number of cars on the road. Governments need to upgrade and improve public transport systems in urban areas. Unless these are convenient, accessible, frequent, reliable and cheap, people will continue to use cars.

And we have to reduce our high greenhouse gas emissions. A moderate carbon tax would have been a good starting point to achieve this objective. (A carbon tax is a 'green' tax designed to discourage the use of high CO₂-producing fuels or processes by raising their costs.) However, the government succumbed to industry pressure and decided against it. Now we must hold industry accountable to its voluntary reduction targets while continuing to lobby for a more effective response from government. □

How you can reduce air pollution

■ The article *How green is your home?* in our April 1995 issue lists many ways you can reduce your impact on the environment. Cutting down car usage will reduce air pollution overall (as will lowering your energy consumption) and improve your health.

■ Consider public transport options and the distance to your workplace and amenities when you next move house. Using a car is the single greatest cause of air pollution in our cities. Where possible, walk or cycle (and get some exercise at the same time).

■ Lobby your local or state government to spend less of your taxes on roads and more on public transport. For example, lobby for the establishment of bus, train or tram routes that aren't yet covered, for more frequent services, for bus lanes and bicycle lanes.

■ If public transport is adequate in your area, encourage your employer to subsidise employees' public transport fares for their trips to and from work.

■ If you work for a larger company in an area where public transport is inadequate, you could encourage your employer to set up car pooling arrangements. If your efforts remain fruitless, try to organise a 'ride-share' scheme yourself. For general advice on ride-share schemes contact Anne Roberts at the Total Environment Centre, phone (02) 247 4714. Or check your Yellow Pages (car driving and/or pooling services) for companies in your city which specialise in such schemes.

■ Ride-sharing is also a good idea for people who share regular social or sporting activities, or drive their children to such events.

■ If you regularly shop at a shopping centre in the suburbs, encourage its management to introduce a bus service from a central point like a railway station. Or walk to the shops, if possible, and have your groceries delivered.

■ Keep your car's engine tuned and maintain the correct tyre pressure to reduce petrol consumption, greenhouse gases and smog-related emissions.

■ If at all possible, avoid driving on congested roads. Vehicles produce more harmful emissions when you're driving very slowly and stopping frequently, and also at high speeds.

■ If you're connected to natural gas, use it for room and water heating and cooking. Coal-generated electricity releases three to four times as much carbon dioxide as natural gas. But allow for sufficient ventilation if your appliances are unflued and your home is well insulated.

■ If you use solid fuel heaters, make sure they're installed and used correctly to prevent unnecessary smoke. Only burn wood that has been cut, split, stacked and dried for at least a year.

■ Don't burn garden waste or paper in incinerators or open fires; use it for compost or mulch, or recycle paper. Backyard burning is a significant source of particle pollution. While once a common practice in Australia, it's now widely regarded as unacceptable and is banned by various metropolitan councils.

... and protect yourself from its effects

■ Avoid areas of high traffic for outdoor exercise.

■ On smog alert days, minimise strenuous outdoor activity and take your medication if you suffer from lung or heart disorders. For advice on asthma management, consult your doctor or see *Elementary asthma management* in our May 1993 issue.

■ Ventilate your house thoroughly to maintain good indoor air quality.

■ At work, keep areas adjacent to photocopiers, laser printers and other sources of ozone well-ventilated.

1995 CHOICE CAR RELIABILITY SURVEY

HOW RELIABLE IS YOUR CAR?

Every year CHOICE asks readers this question, and with your answers we're able to rank cars according to their reliability. This year we've included the survey in the centre of CHOICE — just pull it carefully off the staples and the rest of the magazine will survive intact.

So please pull it out and answer as much of it as you can. We need as many responses as possible so we can report on more car models. Don't worry if you haven't kept records and perhaps can't answer all the questions — every bit of information we can get helps. If you're not exactly sure which model you have, write on the survey or attach a note, with as full details as possible, so our researchers can correctly code it for you.

Once you've filled in your survey, please put it in an envelope (you don't need a stamp) and send it to:

Reply Paid 14

CHOICE Surveys and Trials

57 Carrington Road

Marrickville 2204.

We need to get the surveys back by August 11, 1995.

Remember this survey is unique in Australia. Only the Consumers' Association through CHOICE can tell you how reliable a car purchase may prove to be — and we know you think that is an important ingredient in your car buying decision.

Thank you for your help with this project.

CAR RELIABILITY SURVEY

Thank you for helping us by completing this survey on the car or cars you drive. Please only include cars which you have had for at least one year. If you have more than two cars, please report on the two newest. Please do not include cars which were **made before 1986** (the reliability of cars over 10 years old can depend as much on how they've been driven, looked after and maintained as their make and model), or are not on the list of make and model codes on page 26. Please tick the box opposite the appropriate answer, or fill in the

box. (The small numbers next to some boxes are for our researchers' use; ignore them when you're filling in the survey.)

Please return your survey by August 11, 1995.

Place your survey in an envelope (no stamp needed) and return it to:

REPLY PAID 14

CHOICE Surveys and Trials

57 Carrington Road

Marrickville 2204

VEHICLE INFORMATION

- CAR 1** **CAR 2**
1. Make and model code:
(see model codes over page, eg Holden Barina 1994 on is 2004)
2. Year of manufacture: 19 19
(Can be found on the compliance plate under the bonnet)
3. Month of registration:
(eg June = 06)
4. Is your car's gearbox: Manual ☐ 1 ☐ 1
Automatic ☐ 2 ☐ 2
5. Does your car have air conditioning?
Yes No Yes No
☐ 1 ☐ 0 ☐ 1 ☐ 0
6. What is your current odometer reading in km?
Car 1
Car 2
7. Approximately how far has your car travelled in the last twelve months, in km?
Car 1
Car 2
8. Is your car: Owned/being paid off ☐ 1 ☐ 1
A fleet/leased car ☐ 2 ☐ 2
9. Who usually services your car?
Self/friend ☐ 1 ☐ 1
Garage ☐ 2 ☐ 2
Authorised dealer ☐ 3 ☐ 3
10. How many times was your car serviced in the last year?

BREAKDOWN INFORMATION

- CAR 1** **CAR 2**
11. How many times did your car break down in the last year?
(Breakdowns are when your car cannot be driven at all or cannot be driven safely. Do not include unavailability due to accidents, regular maintenance or vandalism.)
12. How many times was your car unavailable for use due to repair for at least a day?
(That is, it could not be used for the normal day's travel, even if returned on the same day)
13. What was the longest time your car was off the road, in days?
14. Overall how satisfied have you been with the reliability of your car since you have owned it?
Very satisfied ☐ 1 ☐ 1
Satisfied ☐ 2 ☐ 2
Dissatisfied ☐ 3 ☐ 3
Very dissatisfied ☐ 4 ☐ 4
15. Would you buy the same **make** of car again?
(eg Holden, Ford, Toyota) Yes No Yes No
☐ 1 ☐ 0 ☐ 1 ☐ 0
16. Would you buy the same **model** of car again?
(eg Commodore, Falcon, Corolla) Yes No Yes No
☐ 1 ☐ 0 ☐ 1 ☐ 0

PROBLEM INFORMATION

Please tell us the **number** of problems your car has had in the past year. Don't include problems caused by accidents or vandalism. If a problem was severe enough to prevent you using the car on at least one occasion, please tick the 'unusable' box (ie the car could not be driven safely, or it would have received a defect notice or been unregistrable).

	CAR 1		CAR 2	
	Number	Unusable	Number	Unusable
17. Body exterior (Paint, glass, chrome, aerials, mirrors, locks, leaks, rattles, etc)		☐ 1		☐ 1
18. Rust (Not exhaust)		☐ 1		☐ 1
19. Interior (Seats, trims, seatbelts, dashboard, carpets, etc)		☐ 1		☐ 1
20. Ignition system		☐ 1		☐ 1
21. Other electrics (Lights, radio, wiper motors, etc)		☐ 1		☐ 1
22. Computerised engine management system		☐ 1		☐ 1
23. Engine (mechanical)		☐ 1		☐ 1
24. Engine (cooling)		☐ 1		☐ 1
25. Exhaust system (Was the problem rust?)		☐ 1		☐ 1
		Yes ☐ 1		Yes ☐ 1
26. Clutch		☐ 1		☐ 1
27. Transmission		☐ 1		☐ 1
28. Driveline (Driveshaft, universal joints, differential, wheel bearings, etc)		☐ 1		☐ 1
29. Brakes		☐ 1		☐ 1
30. Steering (Including wheel alignment)		☐ 1		☐ 1
31. Suspension (Springs, torsion bars, shock absorbers, struts, brushings, etc)		☐ 1		☐ 1
32. Air conditioning		☐ 1		☐ 1

BACKGROUND INFORMATION

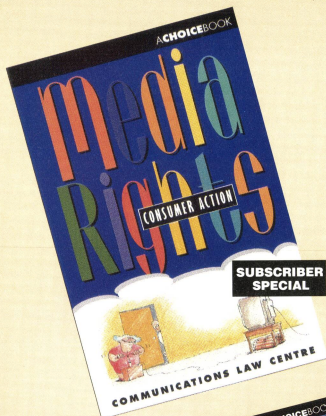
To help us use the results of this survey, could you please fill in a few details about yourself and your household. All information is **STRICTLY CONFIDENTIAL** and your response is anonymous. Please answer for the usual driver of each car.

	CAR 1	CAR 2	
33. What sex are you?			
Male	☐ 1	☐ 1	
Female	☐ 2	☐ 2	
34. In which of the following age groups do you fall?			
Less than 25 years	☐ 1	☐ 1	
25-34 years	☐ 2	☐ 2	
35-44 years	☐ 3	☐ 3	
45-54 years	☐ 4	☐ 4	
55-64 years	☐ 5	☐ 5	
65 years and over	☐ 6	☐ 6	
35. Which best describes your living arrangements?			
Single	☐ 1	☐ 1	
(including divorced, separated, widowed)			
Couple	☐ 2	☐ 2	
(married or de facto partner)			
36. What is the highest level of education you have completed?			
Primary school	☐ 1	☐ 1	
Secondary school	☐ 2	☐ 2	
Trade qualification	☐ 3	☐ 3	
Diploma or degree	☐ 4	☐ 4	
37. Into which of the following income categories does your gross household income fall? Please include all income, no matter from what source (eg pensions, superannuation, etc).			
Per week		Per year	
\$0-385	☐ 1	\$0-20,000	☐ 1
\$386-769	☐ 2	\$20,001-40,000	☐ 2
\$770-1154	☐ 3	\$40,001-60,000	☐ 3
\$1155-1538	☐ 4	\$60,001-80,000	☐ 4
\$1539-1923	☐ 5	\$80,001-100,000	☐ 5
Over \$1923	☐ 6	Over \$100,000	☐ 6
38. How would you describe the area in which you live?			
Inner city	☐ 1		
Suburb of city	☐ 2		
Large country town	☐ 3		
Small country town	☐ 4		
Isolated	☐ 5		
39. What is your postcode?			

CODES FOR CAR MODELS

CODE	MAKE	MODEL	2009	HOLDEN	COMMODORE V8 VL	3103	NISSAN	EXA
1101	ALFA ROMEO	ALL MODELS	2010	HOLDEN	COMMODORE V8 VN-VR	3104	NISSAN	GAZELLE
1201	AUDI	100	2011	HOLDEN	GEMINI (FWD)	3105	NISSAN	MAXIMA
1202	AUDI	80	2012	HOLDEN	JACKAROO	3106	NISSAN	NAVARRA
1203	AUDI	90	2013	HOLDEN	NOVA	3107	NISSAN	PATHFINDER
1204	AUDI	A6 QUATTRO	2014	HOLDEN	STATESMAN V6 VQ-VR	3108	NISSAN	PATROL
1205	AUDI	ALL OTHER MODELS	2015	HOLDEN	SERIES 1991 on	3109	NISSAN	PINTARA 1992 on
1301	BMW	316i COMPACT			STATESMAN V8 VQ-VR	3110	NISSAN	PINTARA 1993 on
1302	BMW	318	2016	HOLDEN	1991 on	3111	NISSAN	PULSAR/VECTOR
1303	BMW	320	2101	HONDA	ALL OTHER MODELS	3112	NISSAN	PULSAR 1993 on
1304	BMW	325	2102	HONDA	ACCORD EX 2.0L	3113	NISSAN	SERENA
1305	BMW	500 SERIES	2103	HONDA	ACCORD 4WS	3114	NISSAN	SKYLINE 2.4
1306	BMW	700 SERIES	2104	HONDA	CIVIC	3115	NISSAN	SKYLINE 3.0
1307	BMW	850i	2105	HONDA	CONCERTO	3116	NISSAN	ALL OTHER MODELS
1308	BMW	ALL OTHER MODELS	2106	HONDA	LEGEND	3201	PEUGEOT	205
1401	CITROEN	ALL MODELS	2107	HONDA	PRELUDE	3202	PEUGEOT	306
1501	DAEWOO	1.5i	2108	HONDA	PRELUDE 4WS	3203	PEUGEOT	405
1502	DAEWOO	ESPERO CD	2201	HYUNDAI	ALL OTHER MODELS	3204	PEUGEOT	ALL OTHER MODELS
1503	DAEWOO	ALL OTHER MODELS	2202	HYUNDAI	EXCEL 1986-94	3301	RANGE ROVER	ALL MODELS
1601	DAIHATSU	APPLAUSE	2203	HYUNDAI	EXCEL 1994 on	3401	RENAULT	ALL MODELS
1602	DAIHATSU	CHARADE	2204	HYUNDAI	LANTRA	3501	ROVER	ALL MODELS
1603	DAIHATSU	FEROZA	2205	HYUNDAI	S COUPE	3601	SAAB	900 SERIES
1604	DAIHATSU	MIRA	2206	HYUNDAI	SONATA 4	3602	SAAB	9000 SERIES
1605	DAIHATSU	ROCKY	2207	HYUNDAI	SONATA 6	3603	SAAB	ALL OTHER MODELS
1606	DAIHATSU	ALL OTHER MODELS	2301	JAGUAR	ALL OTHER MODELS	3701	SUBARU	IMPREZA
1701	EUNOS	30X	2302	JAGUAR	XJ SERIES 6	3702	SUBARU	IMPREZA 4WD
1702	EUNOS	500	2303	JAGUAR	XJ SERIES V12	3703	SUBARU	4WD TOURING WAGON
1703	EUNOS	800	2401	JEEP	ALL OTHER MODELS	3704	SUBARU	LIBERTY
1704	EUNOS	ALL OTHER MODELS	2501	LADA	ALL MODELS	3705	SUBARU	LIBERTY 4WD
1801	FIAT	ALL MODELS	2601	LAND ROVER	DISCOVERY	3706	SUBARU	ALL OTHER MODELS
1901	FORD	CAPRI	2603	LAND ROVER	ALL OTHER MODELS	3801	SUZUKI	SIERRA
1902	FORD	CORSAIR	2701	LEXUS	ALL MODELS	3802	SUZUKI	SWIFT
1903	FORD	FAIRLANE 6 up to 1989	2801	MAZDA	121 1986-90	3803	SUZUKI	ALL OTHER MODELS
1904	FORD	FAIRLANE 6 1989 on	2802	MAZDA	121 1990 on	3804	SUZUKI	4 RUNNER 4
1905	FORD	FAIRLANE V8 2D-ZL	2803	MAZDA	323 (FWD) to 1989	3902	TOYOTA	4 RUNNER V6
		up to 1991	2804	MAZDA	323 1989-94	3903	TOYOTA	CAMRY 4
1906	FORD	FAIRLANE V8 1991 on	2805	MAZDA	323 1994 on	3904	TOYOTA	CAMRY V6
	FORD	FAIRMONT/GHIA - use code for FALCON	2806	MAZDA	323 ASTINA	3905	TOYOTA	CELICA
			2807	MAZDA	626	3906	TOYOTA	COROLLA
1907	FORD	FALCON 6 EA-EF	2808	MAZDA	929 up to 1987	3907	TOYOTA	CORONA
1908	FORD	FALCON 6 XA-XF	2809	MAZDA	929 1987 on	3908	TOYOTA	CRESSIDA
1909	FORD	FALCON V8 EA-EF	2810	MAZDA	MPV	3909	TOYOTA	HI-ACE/LITE-ACE
1910	FORD	FALCON V8 XA-XF	2811	MAZDA	MX5	3910	TOYOTA	LANDCRUISER
	FORD	FUTURA - use code for FALCON	2812	MAZDA	MX6	3911	TOYOTA	LEXGEN
			2813	MAZDA	RX-7	3912	TOYOTA	MR2
1911	FORD	FESTIVA	2814	MAZDA	RX-7 TURBO	3913	TOYOTA	PASEO
1912	FORD	LASER KC-KH 1986 on	2815	MAZDA	ALL OTHER MODELS	3914	TOYOTA	RAV 4
1913	FORD	METEOR GC to 1987	2901	MERCEDES-BENZ	C180			SECA - use code for COROLLA
1914	FORD	LASER TX3 TURBO	2902	MERCEDES-BENZ	190 SERIES 4	3915	TOYOTA	SUPRA
	FORD	LTD - use code for FAIRLANE	2903	MERCEDES-BENZ	190 SERIES 6	3916	TOYOTA	TARAGO up to 1990
			2904	MERCEDES-BENZ	260 SERIES	3917	TOYOTA	TARAGO 1990 on
1915	FORD	MAVERICK	2905	MERCEDES-BENZ	300 SERIES	3918	TOYOTA	TARAGO 4WD up to 1990
1916	FORD	RAIDER 4WD	2906	MERCEDES-BENZ	420 SERIES	3919	TOYOTA	TARAGO 4WD 1990 on
1917	FORD	TELSTAR up to 1991	2907	MERCEDES-BENZ	560 SERIES	3920	TOYOTA	ALL OTHER MODELS
1918	FORD	TELSTAR 1991 on	2908	MERCEDES-BENZ	ALL OTHER MODELS	4001	VOLKSWAGEN	GOLF
1919	FORD	TELSTAR TX5 TURBO	3001	MITSUBISHI	COLT	4002	VOLKSWAGEN	ALL OTHER MODELS
1920	FORD	TELSTAR TX5 GHIA	3002	MITSUBISHI	CORDIA	4101	VOLVO	240 SERIES
1921	FORD	ALL OTHER MODELS	3003	MITSUBISHI	CORDIA TURBO	4102	VOLVO	440 SERIES
	HOLDEN	ACCLAIM - use code for COMMODORE	3004	MITSUBISHI	GALANT (FWD)	4103	VOLVO	740 SERIES
			3005	MITSUBISHI	GALANT VR4 (4WD)	4104	VOLVO	760 SERIES
2001	HOLDEN	APOLLO	3006	MITSUBISHI	LANCER	4105	VOLVO	850 SERIES
2002	HOLDEN	ASTRA	3007	MITSUBISHI	L300/STARWAGON	4106	VOLVO	940 SERIES
2003	HOLDEN	BARINA up to 1994	3008	MITSUBISHI	MAGNA TM-TP 1985-89	4107	VOLVO	960 SERIES
2004	HOLDEN	BARINA 1994 on	3009	MITSUBISHI	MAGNA TR	4108	VOLVO	ALL OTHER MODELS
	HOLDEN	BERLINA - use code for COMMODORE	3010	MITSUBISHI	NIMBUS 4	1001	OTHER MAKES	ALL MODELS
			3011	MITSUBISHI	PAJERO 4			
	HOLDEN	CALAIS - use code for COMMODORE	3012	MITSUBISHI	PAJERO V6			
			3013	MITSUBISHI	SIGMA			
2005	HOLDEN	CALIBRA	3014	MITSUBISHI	VERADA V6			
2006	HOLDEN	CAMIRA	3015	MITSUBISHI	ALL OTHER MODELS			
2007	HOLDEN	COMMODORE V6 VL	3101	NISSAN	BLUEBIRD			
2008	HOLDEN	COMMODORE V6 VN-VR	3102	NISSAN	BLUEBIRD 1993 on			

RWD = REAR-WHEEL DRIVE
 FWD = FRONT-WHEEL DRIVE
 4WD = FOUR-WHEEL DRIVE
 4WS = FOUR-WHEEL STEERING



NEW FROM CHOICEBOOKS

Media Rights - Consumer Action

Communications Law Centre

Have you ever read, watched or listened to a media item and thought that it just went too far? Did you do anything about it? *Media Rights - Consumer Action* gives you the knowledge you need to act.

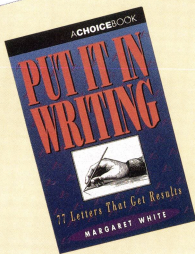
As a consumer of media there are very few ways you can make your message heard, but *Media Rights - Consumer Action* provides you with the information you need to understand and exercise your rights.

It provides factual, simple and unbiased information on newspapers, magazines, TV, community broadcasting, multimedia, pay TV, the ABC and SBS, and advertising. It includes your basic rights regarding the media, contacts for where you can go for more detailed information, and sample letters which you can adapt for your particular complaint.

\$16 (non-subscribers) \$14.50 (subscribers)

Paperback 176 pp

Code: MRCA



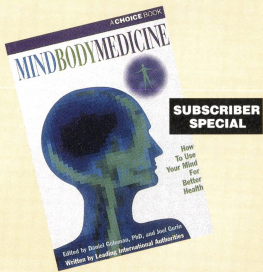
Put It In Writing

77 letters that get results

We all know an effectively worded letter can get results, if only we know our rights and how to express them. This book contains 77 well-considered, cool and authoritative letters, written by a lawyer, which can be adapted to suit your situation.

\$16

Code: PIW



Mind Body Medicine

How to use your mind for better health

The evidence is rapidly growing that thoughts, beliefs and emotions can have a major impact on your physical well-being. In this book more than 30 scientists and scholars from the United States' most prestigious medical institutions present their findings on the interrelationships between mind and body. It includes practical advice.

\$35 (non-subscribers) \$31.50 (subscribers)

Code: MBM



CHOICE Index on Disk

This is a comprehensive index to topics covered in CHOICE from January 1990 to December 1995 on a 3.5" floppy disk, suitable for DOS or Windows operating systems. With its help, you will be able to trace the article you want within minutes.

Individual price \$10

Code: CINI

Corporate / library price \$20

Code: CINC

Give a book to someone you love.



Book Day

SUNDAY, JULY 30TH



A CHOICE
BOOK

Understanding Back Trouble

Practical advice on how to prevent, treat and cope with back trouble

Three out of four Australians will experience back pain at some stage in their lives. This book explains how your back works, what is likely to go wrong, the treatments available and preventative measures.

\$18

Code: UBT



A CHOICE
BOOK

Keep Your Car Alive

An easy guide to routine care and maintenance

"The book goes through every part of the car, explaining how things work, how to test them, do-it-yourself maintenance, troubleshooting, coping with roadside emergencies. I really couldn't find anything they missed." *The Age*

\$16

Code: KYCA



A CHOICE
BOOK

Facefacts

A guide to cosmetics, skin and hair care

What do we know about the stuff we put on our faces and our hair? How does it work? What do the 'special ingredients' actually do? This comprehensive guide answers these questions and covers many other issues, including how best to care for your skin.

\$18

Code: FF

ORDER FORM

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Plus postage and handling (\$3 for one item plus \$1.20 for each extra item)

Total

I enclose: ☐ cheque ☐ money order (payable to the Australian Consumers' Association)

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Signature _____

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First name

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57 Carrington Road, Marrickville 2204.
Phone: (02) 558 0099 Fax: (02) 559 3260

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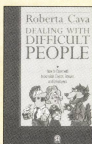
\$3 for one item plus \$1.20 for each extra item ordered. Some books may have to be sent separately to keep postage costs down. This is due to Australia Post's vagaries, not ours. Please allow 3 to 4 weeks for delivery. We process the vast majority of orders the day we

receive them, but sometimes stock replenishment means a delay while we await delivery, so please bear with us. If any order cannot be filled for a substantial length of time, we'll let you know and give you the option of cancellation.

MONEY BACK GUARANTEE

If you are not completely satisfied with your purchase, return book(s) within 30 days for full refund of the purchase price.

1M9506 INS



Dealing with Difficult People

We all have to deal with them — 'difficult' people. You can learn useful strategies from this book — by using effective communication skills and behaviour you will be able to cope when you encounter those difficult people.

\$13

Code: DWDP



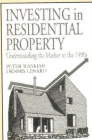
LIMITED
STOCK

The Australian Manager's Guide to Success

Full of advice for managers, this book is made up of 52 specific chapters divided into the following six topic areas: business management, people management, communication, quality and customer service, personal management, and future management. It includes exercises and checklists.

\$25

Code: AMGS

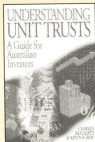


Investing in Residential Property

Whether you're buying a home or planning an investment, it helps to understand the residential market and the factors which influence it — such as economic cycles, taxation policy, public housing programs, the cost of finance, construction costs and investment objectives. It includes a chapter focusing on Sydney.

\$25

Code: IIRP

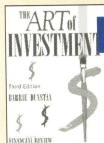


Understanding Unit Trusts

How to minimise the risks and maximise your gains from this popular form of investment. The authors cover different types of trust, tell you how to read a prospectus, and offer advice on choosing a financial adviser.

\$20

Code: UUT



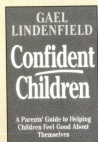
LIMITED STOCK

The Art of Investment (3rd ed.)

With the government sell-offs and major company floats of the past couple of years there are now many more investors in the sharemarket than ever before. *The Art of Investment* warns of the pitfalls of the sharemarket and offers helpful advice on how to make the most of your investments. Even experienced investors should get some helpful insights from this book.

\$22.50

Code: AOI



Confident Children

Confidence is an important and valuable part of anyone's make-up. This practical book helps parents to nurture the confidence of their children without making them precocious or arrogant. It also advises parents on building their own confidence in their parenting skills.

\$15

Code: CONC



Baby Games

A wealth of imaginative ideas and songs to use when playing with your child (from birth to three years).

\$17

Code: BG



How to Stay Sane in Your Baby's First Year

A good basic guide covering all the important issues new parents are likely to face in the first 12 months.

\$17

Code: SSBY

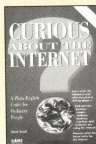


How to Buy a Personal Computer

An up-to-date guide to identify what you need in computers, software and peripherals for your home or office, leading you gently through all the bewildering jargon and competing offers.

\$10

Code: HBPC

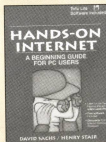


Curious about the Internet?

If you're still unsure about the information superhighway and want more details before you commit yourself, *Curious about the Internet?* will answer your questions. It includes information about the Internet, how it works, who uses it and what you can use it for.

\$29

Code: ATI



Hands-on Internet

A beginning guide for PC Users

If you would rather learn about the Internet through hands-on experience, this book includes a 3.5" disk with eight on-line sessions. Note: to use this disk you will need a PC and a modem.

\$62 including 3.5" disk

Code: HOI



What is the Internet?

The technology that drives the Internet was originally designed to allow the US government to communicate after a nuclear war. From its cold war origin, the Internet has grown to become a worldwide network of millions of computers. Everywhere you turn, it seems, the Internet is being touted as the next big thing. Despite the media coverage, many people still don't really know what it is.

IMAGINE MILLIONS OF POWERFUL university, government, commercial and private computers around the world linked to form a huge computer network. Imagine this network, said to have around 30 million users, is not controlled by any single person or organisation, and that it transcends national boundaries. What you've got, in a nutshell, is the Internet. But how did such a vast network come into existence in the first place and what does it have to offer you?

Some history

In the 1950s the US-based RAND Corporation conducted secret research into thermonuclear war scenarios. Its main goal was to design a communications system that could survive such an attack.

The RAND researchers believed the communications infrastructure would be a prime target in a nuclear war, so they proposed a computer network where there was no central control. Even if one or more computers were destroyed, the remaining ones would still function and would try to route communication through remaining lines.

These ideas were taken up by the US Department of Defense Advanced Research Projects Agency (DARPA) in 1969 when it launched that country's first computer network by connecting four universities. This allowed users to access other computers on the network, transfer files between them, send electronic mail and share information.

DARPA found the network led to better communication between researchers, allowing them to share resources. Over time more and more computers were added, including machines in other countries, so that the Internet now stretches around the world. At present thousands of new users are joining the Internet every month.

To this day there is no central point that controls the Internet.

So what's in it for you?

It's all well and fine having a global computer network, but what use is it really?

Basically speaking, the Internet allows you to share information with other people and organisations around the world.

You can discuss almost any topic via 'newsgroups', which allow people to read and send messages relating to a particular subject.

If, for example, you have a special interest in meditation, then the alt.meditation newsgroup could be of interest. If you're an Elvis fan, then the alt.fan.elvispresley is where you can catch up on the latest Elvis news. If you want to sell something (not commercially) then you might post a message on the aus.forsale newsgroup.

It's also possible to send electronic mail (e-mail) almost anywhere in the world. E-mail takes only minutes to arrive, though the person you're e-mailing must also have access to the Internet. You can also contact CHOICE through

the Internet; our e-mail address is: ausconsumer@peg.pegasus.oz.au

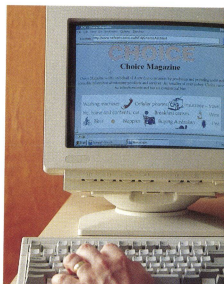
You can also get hold of public domain (PD) software and upgrades for commercial software using file transfer protocol (FTP). FTP is a method for copying a file from one computer to another through the Internet. PD software can be used free of charge, unlike commercial software which is subject to copyright law. Authors of PD software sometimes ask for small donations if you decide to use their programs, though this is usually much cheaper than commercial software.

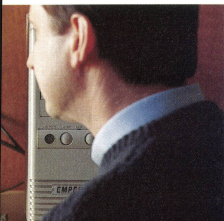
One of the more addictive areas on the Internet is the International Relay Chat (IRC), where you can 'chat' — by typing on your keyboard — with other people around the world. Unlike newsgroups, IRC is instantaneous. The people you're chatting with are actually sitting at their computers as you type. They see your words as soon as you've finished typing them.

A more recent Internet development is the World Wide Web. Originally the Internet was text-based. The Web, as it's called, provides users with a graphic interface to navigate the Internet. This makes it easier and much more fun to use. At present, many organisations and companies are setting up areas on the Web where you can find interesting information. For those who have Web access, CHOICE's address is:

<http://www.softcom.com.au/ACA/>

There's also a lot more you can do on





The Australian Consumers' Association was the first consumer group in the world to be on Internet's World Wide Web.

the Internet than we've had room to discuss briefly here.

Internet issues

It's no secret that pornography of every description is available somewhere on the Internet. This availability is the subject of considerable public debate because there are few controls on access.

Because the Internet is a free-speech environment, extremist organisations such as neo-Nazis, racists and anti-Semites use it to promote their own views. Other Internet users sometimes challenge these views, though most simply ignore them.

Security on the Internet can also be a

problem. Even when precautions are taken, companies connected to the Internet are still vulnerable to hacker attack. Several credit card numbers used to bill clients were recently stolen from Ausnet, an Internet service provider. The numbers belonged to people who access the Internet through Ausnet. According to Ausnet's marketing director, Chris Campbell, security has since been improved and checked by independent security experts.

How do I get on the Internet and what does it cost?

If you're a university student, or work for a company connected to the Internet, you may already have access. If not, you'll have to pay for the privilege.

It may seem obvious to some, but you do need a computer and modem to use the Internet. Some of the Internet service providers we spoke to said they'd received calls from people who didn't realise you needed a computer.

If you just want a shell account — very basic Internet access — you can get away with an older, simpler computer, such as an IBM AT type with a simple communications program. To use more advanced features, such as World Wide Web, you'll need a more powerful computer with colour graphics. If you're using a PC-compatible, we suggest a 486-class machine with at least four megabytes of RAM; eight megabytes is preferable. If you use an Apple Macintosh, we suggest a 68030 or better processor, with a minimum of five megabytes of memory. Again, eight mega-

bytes is preferable. If you have a machine below these specifications, you may still be able to access the Web, but response times may be slow.

You'll also need special software for your computer to connect to the Internet and use the Web. Some new computers have this built in, some Internet service providers supply it, or you can buy it for most types of computer (not just PCs and Macs).

To connect your computer to the Internet, you'll need a modem. This is a device which allows you to connect your computer to a phone line, and in turn to an Internet service provider.

Once you have the necessary equipment, you'll need to find an Internet service provider, preferably one that's operating in your local area (otherwise you may pay additional STD charges). These companies provide a link to connect your computer to the Internet. Billing methods differ between companies. Some charge for the length of time you're connected, while others charge for the amount of information you obtain or use a combination of billing methods. Prices range from under a dollar an hour for a very basic service, to thousands of dollars a year if you want a full-time link to the Internet. □

GETTING ONLINE

To get onto the Internet, you need to go through an Internet service provider. The companies listed below are active in most capital cities, and some are also expanding into regional areas. This is certainly not a comprehensive list. There are also a number of smaller Internet service providers operating in only one area which can sometimes offer better deals.

Ausnet (A)	008 806 755
Connect.com.au	1800 818 262
	(03) 9528 2239
DIALix (B)	1902 292 004
Enternet (C)	(02) 888 5533
IBM Internet Connection	13 24 26
Ozemail	1800 805 874
Pegasus	1800 674 207

(A) To make Internet connection easier, Ausnet has released Instant Internet Access, an Internet software package for PC-compatibles available from newsagents for \$9.95.

(B) Calls to this number are charged at \$1 per minute.

(C) The 'Enternet' package, put together by modem manufacturer Netcomm, includes a modem, software and Internet access, as well as training.

THINGS TO KEEP IN MIND

There are a few things to remember before you start your Internet journey:

- Not all Internet service providers are equal; some offer different levels of service and have different cost structures. Some will provide training and the software to use different features of the Internet, while others offer the bare minimum.
- While there's a lot of interesting and useful information on the Internet, it's sometimes hard to find exactly where it is located because the Internet is so huge.
- There's a lot of unreliable and unchecked information on the Internet, since most contributors are not trained researchers and their work is not checked for accuracy.
- Even if you know something about computers, it takes most people a while to learn how to use the Internet effectively — it's certainly not simple. You can do a course or read a book. Two such titles — *Curious about the Internet?* and *Hands on Internet* — are available through our Consumer Bookshelf (see page 29 of this issue).
- Be aware that if you use your main phone line to access the Internet, you won't be able to make or receive phone calls while you're connected. If you plan to spend many hours using the Internet every day, installing an extra phone line may be a good idea.



Product liability

The Trade Practices Act was amended in 1992 to make it easier for consumers to get compensation for damage or injury caused by unsafe products. Have these changes had the desired effect?

IN JULY 1992, THE TRADE PRACTICES Act was amended to include additional consumer protection measures. The added provisions of the Act (Part VA) do not alter consumers' rights and obligations under existing laws. They make manufacturers and importers liable for defective goods and extend rights to people who previously could not seek compensation from a manufacturer.

In essence, the changes were supposed to make it easier for consumers to gain compensation if they suffered loss or injury caused by an unsafe product.

Who's liable?

Under the added provisions, more than one party can be held liable for damage caused by an unsafe product. This is particularly important when it's difficult to establish the origin of imported products or their components, or when an overseas manufacturer is no longer in business. If the manufacturer can't be identified, the law also applies to the supplier, whether that is the retailer, wholesaler or any other intermediate supplier, such as an importer.

What does 'defective' mean?

You don't have to prove a manufacturer was negligent, only that the product was defective and that this defect caused your injury or loss. Goods or component parts are deemed defective if they don't provide the level of safety you could reasonably expect. When assessing whether a product is defective, the court will consider:

- How it has been marketed. For example, a product marketed for professional or trade use would probably need to include less explicit warnings and in-

structions than if it was intended for use by the general public.

- How it has been presented. For example, packaging, markings and instructions about use and misuse affect consumers' expectations about safety. Instructions are particularly relevant to warn users of potential hazards.

- Possible secondary uses, misuses and abuses. For example, some aerosols may be sniffed so they should contain warnings about the potential danger involved.

- The prevailing community expectations at the time the product was supplied.

Manufacturers' defences

Manufacturers won't be held liable if they can prove the product was not defective when it left their control, that the defect was caused solely by compliance with a mandatory standard, or that no-one could have discovered the defect because of insufficient scientific or technical knowledge at the time ('state-of-the-art' defence). Component makers won't be liable if the defect is due to the design, markings or instructions of the finished product.

What you can and can't do

If you want to take action against the manufacturer or supplier of a product which has caused you damage or injury, consider the following points.

- The new law only applies to products supplied after July 9, 1992.

- You must take action *within three years* of the time you first became — or should have become — aware of the loss or defect and of the identity of the manufacturer.

- You must commence your action



within 10 years of the supply of the goods by the manufacturer.

- If the identity of the manufacturer is unknown to you — and you can't find its name on sales documentation, warranty or instructions — write to the supplier and ask for the name of the manufacturer. He or she is obliged to answer your request within 30 days and should provide precise and accurate information — for example, the manufacturer's name, address and company number. If the supplier is unable or unwilling to identify the manufacturer within that time period, you can take action against the supplier, who will then be deemed to be the manufacturer.

- In determining whether compensation is paid out and how much, the court will take into account whether you have acted responsibly or whether you are partly to blame for the damage because the product has been abused, recklessly used or misused. For example, if a lawnmower engine exploded during normal operation, it would probably be re-



WHERE TO GET HELP

Guides to the product liability provisions of the Trade Practices Act for consumers and businesses are available from the offices of the Trade Practices Commission (TPC) or state consumer affairs departments. The TPC will also assist with certain claims, but has as yet had little demand from consumers.

If you've suffered injury or damage caused by a defective product, you should seek legal advice. In many law firms it's common practice to provide a free initial consultation in personal injury cases. The Head Office of the Australian Plaintiff Lawyers' Association (phone: (02) 262 6960) holds a database of legal professionals with product liability expertise and can refer you to relevant specialists.

some may receive compensation while others may not, depending on the dates of supply.

■ The amendments are modelled on the EC Product Liability Directive. In the European Union another directive on product safety prescribes that only safe goods can be put on the market. In Australia, however, there's still no law which makes it an offence to sell — or not to recall — a product that is known to be defective and unsafe.

■ Another cause for concern is the current restriction to a 10-year period during which consumers are entitled to claim for compensation. This time limit is unfair to people who develop health problems later, as with asbestos-related disease, for example. People should be able to seek compensation for as long as a product can reasonably be expected to last, or to have an adverse effect on them. The draft legislation had initially provided for a 20-year repose period for claims involving injury or death, but faced with pressure from the business community, the Government removed this provision so the Bill would be passed by parliament.

Better consumer protection?

There is little evidence that more consumers have taken action since the new provisions came into force three years ago. The new legislation has not opened the floodgates to litigation, as some insurers had predicted.

Does the lack of litigation mean the law is ineffective, consumers don't know how to take action, or have products become safer? A combination of factors may have contributed to current consumer inaction.

■ **Time restrictions.** The amendments have only been in force since July 9, 1992 and only apply to products sup-

plied after that date, so it's probably still too early to judge whether the added provisions of the Trade Practices Act *will* make a difference for consumers who've suffered injury or loss caused by a defective product.

■ **Ignorance.** According to the legal experts we spoke to, consumers are generally unaware of their rights under the law. Even in legal circles, more education about product liability is needed, as not enough legal professionals understand the issues involved in product liability law.

■ **Accessibility of the legal system.** The costs indemnity rule, according to which the loser has to pay a large part or all of the other side's litigation costs, may be the biggest deterrent for consumers to take legal action, especially against powerful corporations. Consumers who lose their cases may end up losing their house or life savings. That's an enormous structural disincentive to taking up a case. Contingency fees can be helpful — you only pay your lawyer if you win the case — but they don't alter the costs indemnity rule. (For details on contingency fees see *The price of justice* in our January 1995 issue.)

■ **Complexity of product liability issues.** Some of the legal experts we spoke to think the terms and concepts of the legislation are vague, and difficult to explain to jurors. And without existing case law, there's still an uncertainty about how the courts will interpret them.

■ **Better-quality products.** Another reason for the lack of litigation may be that manufacturers have improved the design of their products and quality control measures and there are simply fewer defective products around. While that's hard to prove or to dismiss, it is of course an ultimate goal of consumer protection. □

garded as defective, and the manufacturer would be liable. This would not be so if it exploded during refuelling and the fuel was ignited by your cigarette. Neither would a manufacturer be held liable if you cut your fingers on the blade of a food processor while you were dismantling it and the instructions had warned you to handle it with care.

Gaps in the system

It's much easier now — at least in theory — for consumers to get compensation from a manufacturer of a defective product, but the legislation has serious limitations.

■ The onus of proof that a product was defective still rests with the consumer instead of the manufacturer. It was initially proposed to reverse this in the new legislation.

■ The amendments only apply to products put on the market after July 9, 1992. This can create uncertainty and complications. For example, where several people are injured by identical products,



Car insurance news

Since we published our analysis of the best car insurance policies in the May issue, we've become aware that choosing the right policy with the right company is even harder than we thought.

WE'VE COME ACROSS INSURANCE companies whose head office says one thing while its agents say — and do — another, and surprise packages like the car insurance policy that's bundled together with house and contents insurance.

As we pointed out in the initial article, your individual circumstances will determine how much any policy costs you: where you live, the car you drive, how old you are, your driving history, no claim bonus status, even your sex or your credit rating in some cases. These factors may be rated differently by different companies and may even effect your eligibility for insurance.

This means that sometimes you have to talk to five or six different insurers

before you find the policy that offers you the best value for money. So to help the people who've told us the policies we recommended in their state are too expensive for their particular circumstances — or even that the company won't insure them for one reason or another — this month we're printing an expanded version of our Buying Guide.

We suggest you use it as a shopping list. Contact each of the companies recommended and choose the one in your state that offers you the lowest premium.

It's possible some of the companies listed won't cover you in certain circumstances. This is particularly true for young drivers because they are considered to be a high risk by insurance companies.

BUYING GUIDE

Choose a policy from the recommended list for your state or territory. Policies made it onto this expanded shopping list if they had good benefits and, for the following nine companies, claims handling performance was taken into account too: AAMI, FAI, GIO, NRMA, RAC, RACQ, RACV, SGIO, SUNCORP.

The benefits we thought were most important were the following:

■ **Agreed value:** The majority of companies offered insurance based on a value for your car that you agree with them in advance. This is preferable to 'market value', which can drop significantly without you being aware until your car is written off in an accident. It also allows for the fact that your car might be worth a lot more than others of the same make and model.

■ **No claim bonus schemes:** A 60% maximum is typical, and we were hard on companies offering less. We looked favourably on policies that protect your no claim bonus once you've been on the maximum for a while, and we took into consideration the size of the 'steps' by which it goes up each year and the number of years it takes to reach the maximum. Assuming similar premiums, a policy that gives you 25% no claim bonus after one year accumulates more savings in each succeeding claim-free year than one that begins on, say, 10%.

■ **Car hire** for up to two weeks if yours is stolen is a feature of many policies. Some offer less than this, while RAA in South Australia gives 21 days.

■ **Cover for personal property** lost, damaged or stolen in your car is also a good feature shared by many policies, but some pay out more than others — rang-



No, it wasn't a real accident — we got a lot of comments about our May cover! Thanks to the NSW Roads and Traffic Authority's Crashlab for lending us two of their test vehicles.

ing from, for example, a \$50 limit per item to up to \$500 in total.

■ **Third-party property cover** for a substitute car while yours is off the road for repairs, say, is very worthwhile, and only a few companies — AAMI, NZI, RACV and ZURICH — don't provide it.

■ **Virtually all companies will waive excess payments** when you're not at fault in an accident, provided you can identify the driver who is. Notable exceptions are SGIC and SGIO. Honourable mention goes to FAI in Victoria for allowing such a no-blame waiver even when you can't identify the guilty party.

■ **A stone hitting your window** is hardly a major accident, but paying excess on a new windscreen could be a major annoyance. Very few of the companies will waive their normal excess when it's only a window in question. CIC (in the ACT, NSW, NT and WA), RAA and AAMI (SA only) are the ones that do. SGIO does it for maximum no claim bonus customers only.

■ **GIO, RACV and FAI in Victoria only, and MMI in all states, lost points for keeping the registration refund on written-off vehicles.** By contrast, MERCANTILE MUTUAL and RACV will, in some circumstances, return the 'unused' portion of the annual premium you've paid on a write-off, or at least credit it towards a new policy.

We haven't taken premiums into consideration this time because of the many factors — noted above — that influence how much you will end up paying for car insurance. Each insurance company may rate these factors differently when calculating premiums, so we've given you as broad a field as possible to go shopping with.

Companies are listed alphabetically.

ACT

AMP
CIC (A)
Mercantile Mutual (B)
NRMA
QBE (C)
Sun Alliance & Royal (D)
Zurich (E)

NSW

AMP
CIC (A)
Mercantile Mutual (B)
NRMA
QBE (C)
Sun Alliance & Royal (D)
Zurich (E)

Northern Territory

AMP
CIC (A)
Mercantile Mutual (B)
QBE (C)
Sun Alliance & Royal (D)

Queensland

CIC (A)
GIO
Mercantile Mutual (B)
NRMA
QBE (C)
RACQ
Sun Alliance & Royal (D)
Zurich (E)

South Australia

AMP
CIC (A)
Mercantile Mutual (B)
QBE (C)
RAA
Sun Alliance & Royal (D)
Zurich (E)

Tasmania

AMP
CIC (A)
Mercantile Mutual (B)
QBE (C)
RACV
Sun Alliance & Royal (D)
Zurich (E)

Victoria

CIC (A)
Mercantile Mutual (B)
NRMA
QBE (C)
RACV
Sun Alliance & Royal (D)
Zurich (E)

Western Australia

AMP
CIC (A)
Mercantile Mutual (B)
QBE (C)
Sun Alliance & Royal (D)
Zurich (E)

(A) May not accept people under 25 unless another family member is already insured with CIC.

(B) May not accept people under 25 unless certain conditions are satisfied. The policy we assessed is available through brokers and branches. There is another policy, which we didn't assess, available through Mercantile Mutual Personal Insurance at Strathfield, NSW.

(C) People under 25 may be restricted to six months' cover.

(D) **SUN ALLIANCE & ROYAL** has two policies: **Secure Motor** and **Secure Motor Plus** (which has more benefits). Premiums for the two will differ.

(E) **ZURICH Allguard** only; the company also sells a policy called **Coverall**. Car insurance is only available as part of a package which includes house or contents insurance.



Letters

INFORMATION NOT AVAILABLE

The May 1995 CHOICE article *Road-testing car insurance* referred to the Insurance and Superannuation Commission (ISC) as having information on insurers' claims handling.

The reality is that the ISC simply does not have most of the information referred to in the article. For example, we do not have information on how quickly claims are paid, how many are knocked back, or how many inadequately paid.

However, for the past three years the Insurance Council of Australia's Claims Review Panel has been available to consider disputes about claims and to make determinations in respect of them. In its Annual Report for the year ending June 30, 1994, the Panel reported that it received 22,518 inquiries and requests for information (39% relating to motor vehicles) and 5327 complaints (40% relating to motor vehicles). Of the 2147 motor vehicle complaints, 26% related to denial of liability, 24% to the amount of the claim settlement and 11% to delays.

The article also ignores the point that the general insurance Code of Practice has been set up to provide minimum operational standards for all aspects of general insurers' dealings with consumers. The Code, which comes into operation on July 1, 1995, specifically addresses issues relating to claims handling. It is planned that the Annual Report on the operations of the Code will cover compliance issues and include statistics on claims and other disputes.

D S Gruber
Assistant Commissioner,
General Insurance, ISC

We were led to believe the ISC did have this type of information — and certainly we think it's information it should have, and be able to provide for consumers.

As for the general insurance Code of Practice, it is currently closer to a statement of general principles than a workable code, and it gives no redress to consumers if it is breached.

CONCERNS ABOUT CAR SEATS

I am writing to express concern about the article *How safe is your child's car seat?*, which appeared in the April 1995 issue of CHOICE.

We are very supportive of the work you do in alerting parents and others to issues affecting children's safety, and in general have only praise for it. We feel, however, that in this instance the manner in which the test results were presented has caused a good deal of needless worry to parents.

Kidsafe around Australia has had to deal with a steady stream of calls from parents who are concerned that the restraint they have is unsafe. We are aware that other organisations have been receiving such calls too. Myer Grace Bros, among other retailers, reports a large number of parents wishing to return restraints, on the grounds that they have been sold unsafe goods.

You are no doubt familiar with the research report *Children in car crashes*, which was carried out for us by Dr Michael Henderson. The mass crash data collected from what actually happened to real children on the roads (as opposed to dummies in the laboratory) demonstrated that child restraints, when used correctly, were extremely effective, there being only one instance of a child in such a restraint being seriously injured (in this case a fatality), and that in a crash that was probably unsurvivable. The real problem that emerged was that a proportion of parents in the study were still not using restraints or were not using them correctly.

This raises the question of how realistic the testing actually was. The detail of what was done has not been published, which leaves us wondering whether the conditions of the testing replicated situations which would normally be considered beyond the likelihood of human survival.

It was very pleasing to see the report covered much-needed information on ease of use and compatibility with the cars they are used with. The biggest is-



All child car restraints are safe and have passed the Australian Standard. Some, however, perform a lot better than the Standard requires in some types of crash.

sue, after all, is getting parents to install and effectively use the restraints they have.

Chris Gowdie
Executive Officer, Kidsafe
Child Accident Prevention Foundation
of Australia

We don't think our article gave parents the impression that currently available car restraints were unsafe. If some media reports from other sources gave this impression, we corrected it whenever we had the chance. Throughout our article we gave repeated assurances that all Standards Australia-approved child restraints give an acceptable level of performance in a crash. We clearly explained that AS-approved child restraints are the safest in the world and that, as a result, Australian children survive crashes that would not be considered survivable in other countries.

We went to great pains throughout the article to encourage parents to use restraints and ensure they use them correctly. In fact, we contend that any parent who read our article would be thoroughly convinced of the need to restrain their children properly. As we stated: "An unrestrained child has no crash protection at all and is likely to be seriously injured or killed in a crash."

We took part in the Child Restraint

Send your letters to CHOICE, 57 Carrington Road, Marrickville 2204.

Where possible, please include your daytime telephone number, as we may wish to contact you direct for more information or to discuss your comments and queries.

Assessment Program because we had good evidence to believe that there are significant differences in the crash test performance, ease of use and car compatibility of the various brands of child car restraint currently available in Australia, despite the fact that they all comply with the Standard. The results of the tests justified this belief.

Australian parents have a right to know there are some child restraints that just scrape through in terms of their compliance with the Standard, while other brands and models pass more difficult tests with flying colours.

The Child Restraint Assessment Program decided to test over and above the Standard because the NSW Roads and Traffic Authority, through its compliance testing, discovered that some imported models of child restraint were displaying undesirable performance characteristics in crash tests — characteristics that are not addressed in the current Australian Standard.

The tests did not involve 'unsurvivable' situations. The primary objective of our testing — particularly the side-impact testing — was to highlight a weakness in the design of some child restraints. This weakness could actually cause the restraint to contribute to injury, yet it could be easily rectified by manufacturers.

We do not apologise for publishing the existence of this design weakness. As a result of our tests, parents have been made aware that they should look for a restraint with prominent side wings and they should avoid soft-shell or backless booster seats. Naturally, if they have already bought a child restraint of any brand, they should continue to use it.

GOOD WOOD IN QUESTION

Having read *The good wood guide* in the February 1995 issue of CHOICE, I find it necessary to correct some of the information supplied to you by the Wilderness Society.

More than 10 of the species on the 'timbers to avoid' list are eucalypts managed by State Forests in an ecologically sustainable manner. Four of these species are actually grown in plantations.

However, the greatest injustice must certainly be for the inclusion of cypress pine as being part of old growth, wilderness or rainforest. The bulk of cypress pine forests in NSW are regrowth forests resulting from failed agricultural practices in the earlier part of this century, growing on the western slopes. How could this possibly be considered to fit into old growth or wilderness forest?

Forest management in NSW is strictly managed and externally regulated and licensed by the NSW National Parks and Wildlife Service, Environment Protection Authority, Department of Conservation and Land Management and in some cases the Regulatory and Public Information Committee.

Hans Drielsma
Managing Director
State Forests of NSW

The main problem when buying wood is that there is no way for buyers at the point of sale to determine where a particular piece of timber has come from. Even if some of a particular native species is grown on a plantation, the consumer has no way of knowing that for one specific batch of timber.

As always, we took a national perspective on the issues involved, and in

the case of cypress pine, we understand that in Queensland it is obtained from native forests.

As reported in the section of the article entitled *The great tree debate*, the Wilderness Society and other parts of the green movement are campaigning for an end to logging in native forests. They believe an "ecologically sustainable wood supply from native forests is not possible at an industrial scale".

CHOICE does not necessarily endorse this view, and in the interests of objectivity, also reported the industry and government points of view. However, it cannot be denied that some consumers agree with the environmental movement; so our aim was to provide those consumers with information to make their purchasing decisions easier. We were careful to point out to our readers that the forestry industry has put in place "sustainable management practices", and that all state and territory governments are signatories to the National Forest Policy Statement or, in the case of Tasmania, endorse the principles of the National Forest Industry Strategy.

HEALTH COSTS

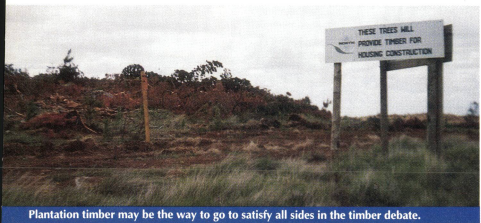
I have lived in France recently (1992) and seen a GP there. The Australian Medicare rebate for a visit to a GP is 75% of the schedule fee (that is, 75% of about \$25). Medical insurance in France is a gap insurance, so that those with such insurance would pay nothing.

The figure quoted in your December 1994 *Shopping around* is incorrect. I've never paid more than \$5 for a visit to the GP in France. Incidentally, dental services and pharmaceutical products (including cold tablets) are also covered extensively by the health system in France.

Please check your figures more carefully. Such mistakes make the Australian healthcare system appear more socially empathetic than it really is.

S Somersett
Highgate Hill, Qld.

We apologise for the error; the prices given for a visit to a GP were specifically quoted as being 'after medical rebates'. It appears the price given to us by our French counterparts (around \$25) was before these rebates.



Plantation timber may be the way to go to satisfy all sides in the timber debate.

Recharge your batteries?

Would you like to kick-start your old alkaline batteries and use them again? And again and again? One battery recharger claims you'll be able to use them up to 10 times over. We're always a little sceptical of claims like that so we put it to the test and found it fell a bit, well, flat.

IF THERE'S ANYTHING AS ANNOYING as batteries going flat — whether in your personal cassette player in the middle of your favourite piece of music or your torch in the middle of the night — it might be the sting at the corner store when you buy replacements. Good, long-lasting alkaline batteries aren't cheap, and many of the appliances that fill modern life chew them up at a rapid rate.

The REGENERATOR from Greencell claims to be the answer to this problem.

"Extends the life of alkaline batteries up to 10 times!" says the claim. It also "recharges Heavy Duty and Super Heavy Duty batteries up to three times". It sounds great, but does it work? We tested these claims and found that if "up to" sounds a note of caution in your mind, your instinct is correct.

Similar — if not identical — products are on sale in the UK, Europe and North America and have been tested by various consumer groups in those places. They all concluded more or less the same thing: the rechargers do wring some extra life from alkaline batteries (such as Duracell and Energizer), but not nearly as much as their makers claim. For ordinary 'carbon' batteries, they're almost useless.

OUR TEST — AND OTHERS

We put the REGENERATOR to the test by draining batches of four standard 'AA' size alkaline and 'carbon' battery cells and recharging them using the product. These types of battery (dry cell) will recover some of their charge simply by being 'rested' — giving the chemical reaction inside them, which generates the charge, time to recover when the battery isn't being used. We therefore drained a second batch of batteries identically to the first, then just gave them a rest while the test batch was rejuvenating in the REGENERATOR.



The results showed the 'control' batteries did indeed recover somewhat after one or two 'drain and rest' cycles, so this 'natural recharging' has to be borne in mind when assessing any benefits of the REGENERATOR. Nevertheless, the product did give alkaline batteries some extra legs, but if you understand "recharge" or "extend the life of" batteries "up to 10 times" to mean a tenfold increase in battery life, you'll be sorely disappointed. You can 'recharge' or 'extend' as many times as you like, but there may not be any noticeable effect on the batteries after the first few goes. The time the batteries lasted in use dropped sharply each time they were charged in the REGENERATOR.

Our test results differed in detail but not in overall recommendations from those obtained by *Which?* magazine in the UK, those of the German *Test* magazine and also those arrived at by *Consumer Reports* in the USA. All of them were at odds with the excellent results produced by an English university laboratory which conducted tests for the manufacturer.

In real use, different types of appliance make different demands on batteries, so there is no 'one way' to test a battery recharger's claims.

Each organisation tested by drawing different amounts of power to give different rates of draining, over different

timespans, which contributes to the differences in results.

A spokesperson for the Eveready battery company told us forcing current back through ordinary dry cells to try to reverse the "controlled corrosion" normally taking place inside is "problematic" at best. He said unless such a reversal process was very uniform, there was the danger of uneven build-ups of the zinc anode material in the cells. In some circumstances this could end in an internal short circuit, which spells the end of the battery.

WANT TO RECHARGE? GET RECHARGEABLES

After testing this product we did share one important conclusion with the overseas consumer magazines. Given the extremely erratic results, and the considerable fuss and bother it takes to use this product at its optimum effectiveness, we recommend giving it a miss and using nickel cadmium (NiCad) batteries. NiCads potentially give hundreds of problem-free recharges. Use them till they're flat as a tack and have your spares in the charger ready to go.

We think by using genuinely rechargeable NiCads you'll save a fair bit of money, lots of mucking around and a little bit of the environment — by doing your bit to reduce the problem of discarded batteries. □

Any old irons?

Do you have a CHOICE-recommended appliance more than 15 years old that is still going strong?

As part of CHOICE's 35th birthday celebrations, we are holding a competition to find the subscriber with the oldest working CHOICE-recommended appliance. To enter, your appliance must be:

- Still in working order.
- A model recommended by CHOICE.
- At least 15 years old.

Simply send in a photo of yourself and the appliance, if possible telling us which issue it was recommended in. (If you can't remember or haven't kept back issues, give our Consumer Information Service a call on (02) 559 9855 and they'll help you find it.)

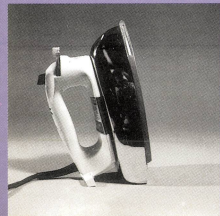
The subscriber with the oldest appliance will win a CHOICE pack valued at over \$150, including:

- A one-year subscription to CHOICE.
- A one-year subscription to Consuming Interest.
- A one-year subscription to CHOICE Travel.
- Three recent CHOICE Books.

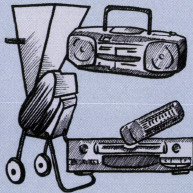
All entries will also go into a draw to win a CHOICE tested and recommended appliance from one of our recent tests.

In October CHOICE we'll publish the name and photo of the subscriber with the oldest appliance, and the winner of the draw.

Send your entries to Oldest appliance, CHOICE, 57 Carrington Road, Marrickville NSW 2204, to reach us by July 31, 1995.



17th SUBSCRIBER DRAW



For new subscriptions and renewals received July 1 to September 30, 1995

Our Seventeenth Draw, to be held on October 3, 1995, will have a new format. There will be two lucky winners who will choose their prizes from tests published in CHOICE, January to February 1995.

1st Prize: Chipper/shredder (January 1995) valued at up to \$830 and a VCR (February 1995) valued at up to \$500.

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These are products we bought for testing, so you won't be the first to turn them on or set them up. But we'll cover any service problems with a CHOICE warranty that'll match the manufacturers' — just as if you'd bought them new.

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Subscriber draws are held every quarter — your renewal notice will have the details. If you're on a two-year subscription you'll be entered on your first anniversary as well as when you renew again.

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CONDITIONS OF ENTRY

1. The winner will be drawn from new subscriptions and renewals from personal subscribers (including members and donors of gift subscriptions) received July 1 to September 30, 1995. If you opt for a two-year subscription, you'll be entered on your first anniversary as well as when you actually renew or subscribe. 2. Information on how to enter and prizes forms part of these conditions of entry. 3. Employees, and their immediate families, of the Australian Consumers' Association and its associated companies and agencies are ineligible to enter. 4. Entrants must be residents of Australia. 5. Applications are subject to a verification check and the judge's decision is final. No correspondence will be entered into. 6. The prizes will be delivered free anywhere within Australia. 7. Prizes cannot be taken as cash. 8. South Australian residents may enter the draw by completing the form and posting to: Reply Paid No. 24, ACA, 57 Carrington Road, Marrickville NSW 2204, without subscribing to the magazine. Only one entry per person is permissible through this method. 9. Last date for receipt of entries to the draw is September 30, 1995. No responsibility accepted for lost, late or misdirected mail. 10. The draw will be conducted at the office of the Consumers' Association at 10 am on October 3, 1995. 11. The winner will be notified by letter and published in the earliest feasible issue of CHOICE after that. 12. The promoter is Australian Consumers' Association, 57 Carrington Road, Marrickville NSW 2204. NSW permit No. TC95/2691 issued on 7/6/95, ACT Permit No. TP95/1115 issued under the Lotteries Ordinance on 7/6/95, NT No. NT95/0955 issued on 7/6/95.

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Vacuum cleaners

Does the price make a difference to the overall quality when you're buying a vacuum cleaner?

THERE WAS A \$170 PRICE DIFFERENCE between the cheapest and the most expensive vacuum cleaner in this test, but the extra money didn't seem to guarantee much better performance. For instance, the two HOOVERs at the top of our *What to buy* list were only marginally better than the two EUREKA uprights, even though they cost between \$80 and \$100 more.

You may get a few more features with an expensive machine, such as on-board accessory storage, variable power control or a 'dustbag full' indicator, and these tend to make a machine easier to use. But some cheaper vacuum cleaners have just as many features as the expensive ones.

The cleaners in this test cost roughly between \$160 and \$330, which is a fairly middle-range price for vacuum cleaners.

AHEAD OF THE PACK

The uprights were about twice as good at removing dirt from carpet as any of the barrel or canister cleaners we tested.

One possible reason for their good performance was that they all have the fan placed before the dustbag, which means that dirt is sucked through the fan and blown into the bag. Barrel and canister cleaners have the fan positioned behind the bag, which means the fan has the more difficult job of sucking air (and dirt) through the bag and any contents. Uprights also have brush 'beaters' that beat the dirt out of the carpet, dislodging more grit than either canister or barrel cleaners.

However, many people prefer barrels and canisters because they're often easier to store since the hose and wands can be detached. Uprights require a tall storage space.

WHAT TYPE OF BAG?

If you're concerned about the environment you may want to choose what kind of dustbag your cleaner uses. Cloth bags are better in this regard, because they can be reused and create less waste. They also save you money because they don't have to be constantly replaced. How-

Uprights again swept the floor with other types of vacuum cleaner in terms of the amount of dirt they remove, but some people find barrel or canister models easier to use and store.



ever, they do require regular washing to prevent the pores being blocked with dirt, which could reduce the cleaner's ability to pick up dust.

Cloth bags can also be messy to empty; if you're sensitive to dust, you'll need someone else to empty them for you — well away from doors and windows.

Manufacturers now claim reusable paper bags can be filled up to three or four times. The reusable bags for the cleaners we tested had a plastic clip on the bottom that can be slid across to allow the dirt and dust to fall out directly into your bin.

JUST TOO NOISY

All the uprights were noisier than either the barrels or canisters. The EUREKA Bravo The Boss performed very well in our last vacuum cleaners test but was found to be very noisy. The manufacturer told us it had been fitted with a

muffler to make it quieter, but our tester this time still had to wear earmuffs to withstand the harsh noise generated by the machine.

WHAT TO BUY

Best uprights

equal	HOOVER Breeze U1432	\$239
	HOOVER Duet U2740	\$299

EUREKA Bravo The Boss AU9334 \$199

EUREKA Bravo AU9002 \$159

Best of the rest

MIELE S2471 \$299

PHILIPS TC 533 \$279

PANASONIC MC-E852 \$249

VAX 1800 \$279

HITACHI CV-99 \$179

We decided any vacuum cleaner that couldn't score 25% or more for dirt pick-up deserved to get a 'not recommended' rating; it hardly seems worth buying one that does such a poor job.

Profiles

The recommended models are profiled in rank order from left to right. Prices shown are a good target to aim for when shopping around, based on nationwide checks in April 1995.



HOOVER Breeze U1432

Target price: \$239

Type: Upright.

Good points

- Equal best overall performance.
- One of the best dirt removal scores.

Bad points

- Difficult to move under furniture and get into tight places without using accessories (crevice tool, upholstery brush, etc), which aren't as easy to use as those of barrel or canister cleaners.
- No 'dustbag full' indicator.

HOOVER Duet U2740

Target price: \$299

Type: Upright.

Good points

- Equal best overall performance.
- One of the best dirt removal scores.

Bad points

- One of the more expensive machines.
- Difficult to move under furniture and get into tight places without using accessories (crevice tool, upholstery brush, etc), which aren't as easy to use as those of barrel or canister cleaners.
- No 'dustbag full' indicator.



MIELE S2471

Target price: \$299

Type: Barrel.

Good points

- Dustbag is easy to insert and remove.
- Retractable cord storage.
- On/off and cord retraction switches are large and easy to use.
- On-board storage for accessories is compact and easy to get at.
- 'Dustbag full' indicator.
- Retractable cord storage.

Bad points

- Like most non-upright cleaners its dirt removal performance is pretty poor.
- Head needs more effort than some others to move it over carpet.

PHILIPS TC 533

Target price: \$279

Type: Barrel.

Good points

- 'Dustbag full' indicator.
- Retractable cord storage.
- Quietest machine tested.
- Has a good on/off switch.
- Has a good range of accessories with on-board storage.

Bad points

- Like most non-upright cleaners its dirt removal performance is pretty poor.
- A bit high in price.
- Difficult to move head over carpet.
- Changing dustbag is complex.

PANASONIC MC-E852

Target price: \$249

Type: Barrel.

Good points

- Retractable cord storage.
- Has a good on/off switch.
- Good on-board storage of tools.
- 'Dustbag full' indicator.

Bad points

- Like most non-upright cleaners its dirt removal performance is pretty poor.
- Have to take off top to change dustbag and this is fiddly to put back on.
- A bit heavy to move around.
- Cleaner head sticks to carpet occasionally and needs a push.

What to look for

Basics first: Do you live in a confined area or have furniture that's low to the floor? Are you short of storage space? If you've answered 'yes' to either of these questions, you might consider sacrificing better dirt removal in favour of greater ease of use and storage, and go for a compact vacuum cleaner, such as a barrel.

Weight: Check how easy the vacuum cleaner is to carry and manoeuvre around the shop.

Noise: Ask the shop assistant to turn the machine on and try to assess whether you'd find it too loud or particularly irritating.

Ease of use: While the cleaner is on, check to see that the head glides easily, without scraping or sticking, over hard and carpeted surfaces. The on/off switch should be easy to locate and the switches should be large, well-marked and easy to press.

Convenience: Features such as retractable cord and on-board storage for accessories make vacuuming a little easier. But accessory storage compartments should be well designed and should not obstruct the machine from reaching wall or furniture edges.

Adjustable head height: If you've decided on an upright, choose one with adjustable head height. This will enable the cleaner to cope more easily with different floor surfaces and carpet piles.

The dustbag: Check to see whether it's paper or cloth. If you live in a unit, you may opt for a cleaner that has paper bags — cloth bags can be messy to empty. If you're going to buy a model that uses paper bags, make sure they're easy to buy. Is the bag easy to remove and insert? Try it out while you're in the store.

Performance: Uprights tend to have much higher dirt removal scores than barrels or canisters. The addition of a 'power head' where available can lift the performance of non-uprights.

Power consumption: Our tests showed that vacuum cleaners with the highest energy use don't necessarily give the best cleaning performance. In fact three of our top performers, the two **HOOVER** uprights and the **EUREKA Bravo**, only used about half the energy of some of the barrel and canister cleaners tested. So don't be fooled into thinking claims like '800 W' or '1000 W' necessarily mean better dirt pick-up.



EUREKA Bravo The Boss AU9334

Target price: \$199

Type: Upright.

Good points

- Good overall performance.
- One of the best dirt removal scores.
- Easy to manoeuvre and move over carpet.
- On/off switch is a good size and in a good location.

Bad points

- Extraordinarily noisy.
- Paper dustbag difficult to change.
- Difficult to move under furniture and get into tight places without accessories, which aren't as easy to use as those of other barrel or canister cleaners.
- No 'dustbag full' indicator.

EUREKA Bravo AU9002

Target price: \$159

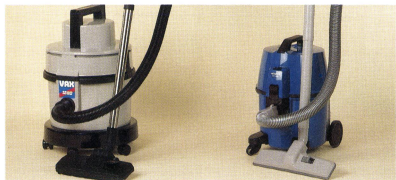
Type: Upright.

Good points

- One of the best dirt removal scores.
- Machine head is the easiest to move over carpet of those tested.
- Lightest vacuum cleaner tested.

Bad points

- Has no accessories so it's difficult to vacuum under furniture or into tight corners.
- Paper dustbag is difficult to change.
- No 'dustbag full' indicator.



VAX 1800

Target price: \$279

Type: Canister.

Good points

- If you want a canister model this was the better of the two we tested.

Bad points

- Like most non-upright cleaners its dirt removal performance is pretty poor.
- No 'dustbag full' indicator, on-board accessory storage or retractable cord storage.
- Difficult to insert and remove dustbag.
- On/off switch difficult to use.
- Heaviest machine tested.

HITACHI CV-99

Target price: \$179

Type: Canister.

Good points

- 'Dustbag full' indicator.
- On-board accessory storage.

Bad points

- Like most non-upright cleaners its dirt removal performance is pretty poor.
- A little difficult to take dustbag out and empty; reassembly of machine is also awkward.
- On/off switch difficult to use.
- Tends to tip over if its cord is taut.
- Difficult to push cleaner head over carpet.

Vacuum cleaners

	Brand/model (in rank order)	Manufacturer/ distributor	Origin	Target price (\$) *	Warranty (years)	Weight (kg)	Reach (m)	1	2	3
								Dustbags	Adjustable head	Upholst brush
equal	HOOVER Breeze U1432 (U)	Hoover	Australia	239	2	6.5	3.1	Paper (D)	✓	✓
	HOOVER Duet U2740 (U)	Hoover	Australia	299	2	7.2	3.1	Paper (D)	✓	✓
equal	EUREKA Bravo The Boss AU9334 (U)	Electrolux	USA	199	1	6.0	2.5	Paper	✓	✓
	EUREKA Bravo AU9002 (U)	Electrolux	USA	159	1	4.8	na (C)	Paper	✓	✓
equal	MIELE S247i	Miele	Germany	299	2	8.1	3.6	Paper	✓	✓
	PHILIPS TC 533	Philips	Holland	279	2	7.8	3.4	Paper	✓	✓
equal	PANASONIC MC-E852	Panasonic	Spain	249	1	7.4	3.3	Paper (D)	✓	✓
	VAX 1800 (C)	Vax	Australia	279	2	8.9	3.3	Paper	✓	✓
equal	HITACHI CV-99 (C)	Hitachi Sales	Singapore	179	2	6.5	3.3	None	✓	✓
	NOT RECOMMENDED (less than 25% dirt removal)									
equal	VOLTA Elite U208G (A)	Electrolux	Australia	199	2	7.5	3.3	Paper	✓	✓
	GOBLIN Aurora 1400	Shop Vac	Italy	299	2	8.0	3.4	Paper	✓	✓
equal	PANASONIC MC-E751	Panasonic	Spain	189	1	6.7	3.3	Paper (D)	✓	✓
	HITACHI CV-5300	Hitachi Sales	Singapore	269	2	7.0	3.3	Cloth	✓	✓
equal	PHILIPS Vitali HR6377	Philips	Holland	199	2	6.9	3.2	Paper	✓	✓
	HOOVER Hotshotz SC 254	Hoover	Australia	169	2	5.6	3.2	Paper (D)	✓	✓
equal	WERTHEIM Liv-1400 A (A)	Godfreys	Slovenia	329	not stated	7.6	3.4	Paper	✓	✓
	SANYO SC 53	Sanyo	Japan	179	2 (B)	5.2	3.3	None	✓	✓
equal	SAMSUNG VC-5010	Samsung	Korea	179	2	6.5	3.5	Paper	✓	✓

U Upright model.

C Canister (vertical barrel) model. All the others are horizontal barrel cleaners.

na not applicable.

* Prices shown are a good target to aim for when shopping around, based on nationwide checks in April 1995

(A) Manufacturer says this model is now discontinued, but it may still be available in some shops.

(B) Only one year for accessories.

(C) 'Reach' refers to any hose and wand attachments; the Eureka Bravo has none.

(D) Reusable.



Although the **PANASONIC MC E751** (pictured left) came with on-board storage for accessories, it was poorly designed, with the accessories simply sitting loose on top of the dustbag. In contrast, the **MIELE S247i's** (right) storage compartment was well-designed and compact, making it easier to store and use the tools.

For people with disabilities

People with physical disabilities should look for a vacuum cleaner that:

- Has controls that are easy to use.
- Has dustbags (or a dust collector unit) that are easy to remove.
- Is light and easy to manoeuvre.

Uprights are often better for people with back problems since they require less bending. The **HOOVER Duet U2740** is generally very easy to use and you don't even have to bend over to change the paper dustbag — you simply push a button to open the plastic container that encases it. The **EUREKA Bravo** is the lightest upright tested, but changing its dustbag is more difficult.

Small, compact and lightweight barrels, like the **SANYO SC53**, can also be easy for people with back problems to use. A light barrel cleaner can be dragged behind a wheelchair or placed in the user's lap, but many of the barrel cleaners tested gave poor dirt pick-up.

	3	4	5	6	7	8		
Accessories storage	Retractable cord	Bleed valve	Dustbag full indicator	Dirt removal score (%)	Ease of use score (%)	Overall score (%)	Brand/model (in rank order)	
✓				54	71	61	HOOVER Breeze U1432 (U)	equal
✓				54	72	61	HOOVER Duet U2740 (U)	
✓				53	69	60	EUREKA Bravo The Boss AU9334 (U)	
				55	65	59	EUREKA Bravo AU9002 (U)	
✓	✓	✓	✓	27	75	46	MIELE S247i	
✓	✓	✓	✓	25	69	43	PHILIPS TC 533	
✓	✓	✓	✓	25	69	42	PANASONIC MC-E852	
		✓		28	61	41	VAX 1800 (C)	
✓		✓	✓	26	62	40	HITACHI CV-99 (C)	
							NOT RECOMMENDED (less than 25% dirt removal)	
	✓	✓	✓	23	74	44	VOLTA Elite U208G (A)	
✓	✓	✓	✓	20	75	42	GOBLIN Aurora 1400	equal
✓	✓	✓	✓	23	71	42	PANASONIC MC-E751	
✓	✓	✓	✓	19	74	41	HITACHI CV-5300	equal
	✓	✓		20	72	41	PHILIPS Vitalit HR6377	
	✓	✓	✓	20	64	38	HOOVER Hotshotz SC 254	
✓	✓	✓	✓	22	61	37	WERTHEIM Liv-1400 A (A)	
	✓	✓	✓	19	62	36	SANYO SC 53	
✓	✓	✓	✓	19	52	32	SAMSUNG VC-5010	

Wet-and-dry models, handheld and rechargeable cleaners were excluded from this test. Some models were also excluded because they were released after testing began, or were due to be changed before we were able to publish.

COMPARABLE MODELS

■ We tested the **HOOVER Duet U2740**, an upright without a retractable cord. A technically similar model is the **HOOVER Duet DLX U2742** — which has a retractable cord and power burst and is a different colour. ■ **HOOVER** also has the **HOOVER Lark U1318**, which is similar to the **HOOVER Breeze U1432**, except it doesn't have integrated accessories.

■ We also tested the **HOOVER Hotshotz SC 254**, which has metal extension wands and a retractable cord. This is technically similar to the **HOOVER SC024**, **HOOVER SC026** and **HOOVER SC028**. The **HOOVER SC024** has tapered plastic extension wands and no retractable cord, while the **HOOVER SC026** just has tapered plastic wands. The **HOOVER SC028** has a 'deluxe' carpet/floor nozzle.

■ According to the manufacturer, the **SANYO SC 53** which we tested is one of four similar models with minor variations in colour or features.

1 Dustbags

Dustbags in vacuum cleaners can be either paper or cloth. Some paper dustbags are reusable. Some cleaners don't have a dustbag at all — the dirt simply empties into the barrel or canister.

2 Adjustable head

The four upright cleaners we tested had brushes which could be height-adjusted. Height adjustment works by lowering or raising the rollers under the vacuum cleaner, which changes the distance between the vacuum head and the floor. This allows the vacuum cleaner to cope with different depths of carpet pile and hard floors.

All the barrel and canister cleaners we tested except the **SANYO SC 53** had brushes on the head which could be extended for hard floors (to prevent scratching and aid dirt pick-up) or retracted for carpeted floors and rugs.

3 Accessories/storage

Tools such as a crevice nozzle, dusting brush and upholstery brush are useful for cleaning hard-to-get-at-places, soft furnishings and curtains. Being able to store the accessories on the cleaner itself is a convenient feature.

4 Bleed valve

This feature allows you to lower the suction so you can vacuum curtains or chair covers without sucking the material into the cleaning head.

5 Dustbag full indicator

While it's useful to have some indication of how full the dustbag is, we recommend you empty it regularly to get

the best performance from your cleaner. If you have a cloth dustbag, it's a good idea to give it a regular hand wash to remove the dirt that could be clogging the bag's pores and affecting the machine's performance.

6 Dirt removal score

We embedded 100 grams of specially made dirt into a section of carpet and vacuumed it to a set pattern and speed. The dirt collected in the dustbag was then weighed and recorded as a percentage of the dirt applied. After doing this three times for each cleaner, we averaged the results.

7 Ease of use score

Ease of use was based on how easily the body of the vacuum cleaner could be manoeuvred and how easy it was to move the cleaning head over carpet, under low furniture, how close it could get to edges and into corners, and how difficult it was to empty and change the dustbag and use the accessories. We also took into consideration on-board accessory storage.

8 Overall score

We calculated the overall score by weighting dirt removal and ease of use as follows:

- Dirt removal: 60%
- Ease of use: 40%



WHAT DO YOU KNOW?



RECALLS AND BANS

- 1** If you sign a contract with a reputable removalist firm, your possessions are automatically insured for their current market value.
True or false?

- 4** How much bread does the average Australian eat in a year?
A) 10 kg.
B) 25 kg.
C) 45 kg.
D) 75 kg.

If you find a recall or ban not on our list, please let us know. Companies often rent 1800 numbers for a couple of months after the recall is announced. If the number given is no longer operating, phone the manufacturer or retailer direct.

- 5** The media is giving the Internet a lot of coverage. It is in fact:
A) A huge computer software company best known for its computer operating systems.
B) A new type of computer with built-in communications software.
C) An international network linking millions of computers.

IBM Australia has recalled power cords shipped with IBM personal computers, laptops and screens from November 1994 to April 1995, as they may have faulty wiring and could possibly cause an electric shock. Made by an Australian supplier, the cords are black and detachable, marked 'BC' at the computer end and have a circular clock-face date stamp on the power plug. Other cords are not affected. Return to your nearest IBM office for a free replacement or phone 1800 634 764 for further information.

TECO Australia has recalled TECO TES155 and TES155E ENHANCED MULTI-SCAN COMPUTER MONITORS, distributed nationally between December 1988 and November 1992, as one of the monitor's transformers may become overheated if left on for a long time and could cause a fire. Switch off the monitor and don't use it again. Call 1800 626 626, quoting the model and serial number of the monitor, and advise whether you want an upgraded replacement unit or a partial refund.

Tibaldi Smallgoods has recalled FELINO SALAMI, as it may contain *Salmonella* bacteria. The salami weighs 900 grams, has a 400 mm long casing and is marked 'Code 14, best used before December 30, 1995'. Don't eat the product. Return to place of purchase. If symptoms of food poisoning (such as diarrhoea, abdominal pain and fever) occur, see your doctor. For more information contact Bruce Speirs on (03) 9354 9363.

Sunbeam has recalled the SUNBEAM HAIRDRIER MODEL HD-BE. The black on/off switch may have been made of excessive recycled plastic, which is prone to stress cracking and could break, exposing a live spring. Only units marked MODEL HD-BE on the handle and which have a black on/off switch are affected. Phone 1800 025 059 for further information or contact your nearest Sunbeam Service Centre, where the switch can be replaced free of charge.

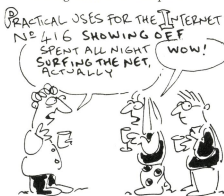
D'Aquino Brothers has recalled PETROVSKA VODKA 750 mL, as it contains an excessive amount of methanol, which could be toxic if consumed. Return to place of purchase for a refund. For further information call (063) 62 7381.

Austwide Wholesalers has recalled TERRA COTTA CITRONELLA CANDLES, as there is a block of polystyrene foam underneath the wax layer which could give off toxic gases if burned. The 90 mm square candle has moulded sunflower and/or half-moon decorations on the side and yellow citronella-fragrant wax. Don't burn the candles. Return to point of sale for a refund. For further information call 1800 643 411.

Brilliant Lighting Australia has recalled BRILLIANT TWIN SHADE PORTABLE FLOOR STAND LAMPS, model 51657 (marked 230/240 V, 2 x 60 W lamp, app. no. V920261 and purchased from K-Mart, Belconnen, or Southside Lighting and Electrical, Fyshwick), as the supply cord to the lamp head may become detached from its termination point. Lamps can be identified from the nameplate fixed to the underside of the base stand. Disconnect the unit and return to place of purchase for a refund. For further information call (03) 9728 6088.



- 2** During a move your valuable crystal vase, which you packed yourself, breaks. You've taken out a replacement cover insurance with your removalist so the company has to reimburse you for the cost of the vase.
True or false?



- 3** What is the most common cancer among women in Australia?
A) Cancer of the cervix.
B) Breast cancer.
C) Lung cancer.

- 6** Australians will never have access to pay television through fibre-optic cable.
True or false?
- 7** Age makes no difference when insurance companies calculate car insurance premiums.
True or false?

ANSWERS

- 1. False.** Insurance is not automatic. Reputable firms usually offer you various insurance options, but you can also arrange insurance yourself. Your home contents insurance policy may also cover your goods during a move.
2. False. The insurance only covers breakages to goods packed by the removalist, not for those you pack yourself. The removalist is only liable if you can prove negligence, for example, if the carton is visibly damaged, or if it's lost.
3. B. It's estimated that throughout the world, about a quarter of a million women die each year from breast cancer. In Australia, it's the third biggest

killer of adult women and the most common cause of death from cancer among women.

4. C. Our consumption of bread has dropped from 69 kg per person in the late 1950s.

5. C. For more information on the Internet see this month's *Computing Choice* on page 30.

6. False. Both Optus Communications and Foxtel are currently laying fibre-optic cable which will be used to carry television services.

7. False. If you're under 25, for instance, insurance companies may charge you more to insure your car.

CHOICE

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We work on behalf of Australian consumers by producing and providing useful and accessible information, and representing and advancing their interests.

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TKM Automotive Australia has recalled VOLKSWAGEN TRANSPORTERS (built between 1990 and 1992), as moisture may get into the fuel injectors and cause a malfunction. Affected vehicles are within the following vehicle identification number (VIN) ranges:

WV2ZZZ24/25ZLH 000 001 to

WV2ZZZ24/25ZLH 113 431

WV2ZZZ24/25ZMH 000 001 to

WV2ZZZ24/25ZMH 009 322

WV2ZZZ24/25ZLG 000 001 to

WV2ZZZ24/25ZLG 124 322

WV2ZZZ24/25ZMG 000 001 to

WV2ZZZ24/25ZMG 021 070

WV2ZZZ24/25ZNG 000 001 to

WV2ZZZ24/25ZNG 006 195.

The VIN is stamped on the compliance plate, which is located on the cross-beam above the brake pedal. Contact your Volkswagen dealer to arrange for an inspection.

International Trucks Australia Ltd has recalled INTERNATIONAL ACCO K 2250 TWIN STEER TRUCKS (built between July 1990 and May 1994), as the first axle drag link may crack and eventually fail under severe repeated shock loading. Vehicles within the following chassis number ranges are affected:

W10592 to W10814

X10234 to X10484

Y10003 to Y10537

Z10090 to Z11055

A10162 to A10465.

Contact any ITAL branch or ITAL dealer to have your vehicle repaired.

Esselte Australia has recalled MARUZEN M-8000 ELECTRONIC STAPLER (supplied since May 1993), as it may become unsafe if the plug is removed from the power point immediately after the stapler has been switched off at the power point. The faulty staplers have the following serial numbers: 013263 - 013482; 013683 - 013782; 013983 - 014282; and 015233 - 015332. Turn off the machine and the power, wait a few minutes before removing the plug and return the stapler to Esselte Australia, 126 Hassall Street (or Locked Bag 47), Wetherill Park 2164. A replacement will be sent to you free of charge.

Copperart has recalled COPPERART AIRPORT (item no. 1678), as it does not have a label cautioning that it may leak if not kept upright at all times and that the pump must be cleaned thoroughly after use. The airport isn't faulty but should be returned to the shop where it was purchased so a caution label can be fixed to it.

FOUR-YEAR INDEX

AUGUST 1994 — JULY 1995

(T) Test
(D) Includes assessment of suitability for people with disabilities
(U) Update of previous report
* Additions or corrections to reports, small follow-up items, or letters

Aids for the disabled	Nov	Film, colour print	Jun (T)	Mortgage managers	Mar
Air pollution	Jul	Financial planners	Apr	Mosquito repellents	Jan (T), Feb (U)
Annual buying guide	Dec	Food			
		bread	Mar (T)	Nader, Ralph, speech	Mar
Baby monitors	Nov (T,D)	frozen meals	Sep (T)	Nutrient claims on food labels	Feb
Bank service	Sep	kangaroo meat	Jun	Nutrition information trends	Aug
Batteries, disposal	Feb	mince, 'lean'	Jul (T)		
Battery recharger	Jul (T)	nutrient claims on labels	Feb	Older people, caring for	Jan, Feb*, Mar*
Birth control, methods of	Oct	nutrition information trends	Aug	Oven cleaners	Sep (T), Nov*
Bread	Mar (T)	processed meat	May	Overlockers	May (T)
Buying a fitted kitchen	Sep	sandwiches, pre-packaged	Feb (T)		
Buying guide, annual	Dec	sports drinks	Mar (T)	Paint, exterior	Aug (T), Oct*
		storage	Mar	Pay TV	May
Cars		trends	Dec	Pedestal fans	Oct (T)
CD adaptors	Mar (T)	Food processors	Nov (T,D)	Petrol, half lead	Oct
child restraints	Apr (T)	Frozen meals	Sep (T)	Pollution, air	Jul
crash tests	Aug			Portable stereos (with CD player)	Jan (T)
half lead petrol	Oct	'Green' homes	Apr	Prescription drugs, cheaper	Jan
insurance	May, Jul (U)	'Green' organisations	Oct	Product liability	Jul
Landcruiser tyres	Apr			Public transport	Sep
recalls	Dec	Half lead petrol	Oct		
reliability survey	Mar	Hearing damage	Apr	Refunds	Feb
safer	Mar	Heaters, convection	Jun (T)	Renting vs buying	Jul
Caring for older people	Jan, Feb*, Mar*	Homes, 'green'	Apr	Repellents, mosquito	Jan (T), Feb (U)
Carpets, 'unstable'	Oct (T)	Hot water			
CD adaptors for cars	Mar (T)	trial	Sep	Sandwiches, pre-packaged	Feb (T)
CD players, personal	Mar (T)	anti-scald devices	Jul (T)	Ski holidays	Jun
Champagne and sparkling wine	Dec (T)			Solar lamps	Oct (T)
Childcare	Oct, Nov	Index, four-year	Jun	Sparkling wine and champagne	Dec (T)
Child car restraints	Apr (T)	Insect repellents	Jan (T), Feb (U)	Sports drinks	Mar (T)
Chipper/shredders	Jan (T)	Insurance		Statutory derivative action	Aug
Commonwealth Government appeals	Jun	car	May, Jul (U)	Stereos, portable (with CD player)	Jan (T)
Compost bins	Dec (T)	information brochures	Aug	Strata management	Dec
Contingency fees	Jan, Mar*	Internet	Jul	Strollers, layback umbrella	Aug (T,D)
Contraception, methods of	Oct	Investment advice	Apr	Sunscreen fabrics	Jan (T), Mar*
Convection heaters	Jun (T)				
Cooktops, electric	Jun (T,D)	Kangaroo meat	Jun	Tampons/toxic shock	Jun
Credit card costs	Jan	Kitchen, buying a	Sep	Telephones, mobile	Aug (T), Nov*
Credit Reference Association	Sep			Televisions, 51 cm	Apr (T)
		Labelling, nutrient claims	Feb	Timber, how to buy 'green'	Feb
Deadlocks	Dec (T)	Lamps, solar	Oct (T)	Timer switches, electric	Feb (T)
Disabled,		Lawn trimmers	Oct (T)	Transport, public	Sep
aids for	Nov	Lead	May	Tyres, Landcruiser	Apr
rights of	Jun	Life insurance commissions	Aug		
Dishwashers	Apr (T,D)	Locks, exterior door	Dec (T)	'Unstable' carpet	Oct (T)
Drugs, cheaper prescriptions	Jan, Mar			Vacuum cleaners, mid-priced	Jul (T,D)
		Meat		Video recorders	Feb (T)
EnergyCard	Jan, Mar*	kangaroo	Jun		
		processed	May	Washing machines	
Fabrics, sunscreen	Jan (T), Mar*	Mince, 'lean'	Jul (T)		Sep (T,D), Nov (U,T,D), Feb*
Fans, pedestal	Oct (T)	Mobile phones	Aug (T), Nov*	Wood, how to buy 'green'	Feb